Draft Environmental Review of the proposed U.S.-Chile Free Trade Agreement

The Office of the U.S. Trade Representative, through the Trade Policy Staff Committee, seeks comment on the following draft environmental review of the proposed U.S.-Chile Free Trade Agreement.

Comments related the draft environmental review are requested by Tuesday, November 20, 2001. Receipt of comments by such date will ensure timely input into the negotiations, which are scheduled to conclude in the month of December, 2001. Please note that comments at the present time may only be sent by fax to (202) 395-5141 or by e-mail to FR0002@ustr.gov.

The draft environmental review was conducted pursuant to Executive Order 13141 on *Environmental Review of Trade Agreements* (64 Fed. Reg. 63169, Nov. 18, 1999) and its accompanying guidelines (65 Fed. Reg. 79442, Dec. 19, 2000), both of which are available at http://www.ustr.gov/environment/environmental.shtml. On December 14 of 2000, the Office of the U.S. Trade Representative requested public comments regarding the scope of the environmental review, including the potential environmental effects that might flow from the free trade agreement and the potential implications for environmental laws and regulations (65 Fed. Reg. 78077, Dec. 14, 2000). The final environmental review will be made available prior to the submission of the U.S.-Chile Free Trade Agreement to Congress for approval.

U.S.-CHILE FREE TRADE AGREEMENT DRAFT ENVIRONMENTAL REVIEW

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I. INTRODUCTION

HISTORY AND BENEFITS OF THE U.S.-CHILE FREE TRADE AGREEMENT

On November 29, 2000, Presidents Clinton and Lagos announced their intention to negotiate a U.S.-Chile Bilateral Free Trade Agreement (FTA). Negotiations were launched on December 6 in Washington, D.C. by the U.S. Trade Representative and the Chilean Foreign Minister. On April 16, 2001, Presidents Bush and Lagos announced their intention to complete the agreement by the end of this year. An ambitious schedule with meetings held approximately once a month was set through the end of the year, with each government hosting alternate negotiating sessions.

The U.S. decision to enter into FTA negotiations with Chile was motivated by a long-standing interest in expanding bilateral trade relations with Chile and strengthening hemispheric ties. The U.S.-Chile Joint Commission on Trade and Investment (JCTI) has been a forum for the exchange of trade and environmental information between the United States and Chile since 1998, when it was created on the occasion of President Clinton's 1998 visit to Santiago. The JCTI work program addressed a wide variety of trade and investment issues, including their relationship to the environment. In both 1999 and 2000, the JCTI dedicated a session of the work program to environmental issues such as the operation and success of the Commission for Environmental Cooperation under the NAFTA, the environmental agenda for the 1999 Seattle Ministerial of the World Trade Organization, and how to ensure that civil society's environmental concerns are taken into account during the formulation of trade policy. The 2000 JCTI work program also deepened the bilateral trade discussion and prepared both countries to strengthen the economic and political relationship necessary for the successful negotiation of a FTA.

At the launch of the U.S.-Chile FTA negotiations, both the United States and Chile committed to addressing the environment in the course of the negotiations. Unlike many U.S. trading partners, the Chilean government has previously accepted environmental commitments in conjunction with the adoption of trade agreements. In 1998, Chile signed a FTA with the Canadian government that closely parallels the NAFTA. Chile and Canada also entered into an agreement that is similar to NAFTA's environmental side agreement.

Chile has one of the strongest economies in Latin America, and is an important U.S. trading partner. Currently ranking 32nd in receipt of U.S. exports, the United States is Chile=s top trading partner. In 2000, the United States ran a $230 million trade surplus with Chile, with U.S. exports to Chile totaling $3.46 billion, and imports from Chile totaling $3.23 billion. While two-way trade increased 11 percent over the previous year, Chile still only accounts for 0.4 percent of total U.S. exports and less than 0.3 percent of total U.S. imports. Although Chile already enjoys low tariffs on most of its imports into the United States, a FTA offers the opportunity for expansion of U.S. exports to Chile, where U.S. suppliers face high tariffs for some products in Chilean markets, especially compared to foreign competitors who may have preferential access.

Chile has signed preferential trade agreements with many countries in the Western Hemisphere. U.S. exports in several sectors have been negatively affected by these trade agreements. For example, under Chile's flat tariff regime, most U.S. exports to Chile currently face an eight percent tariff, which is scheduled to be reduced to six percent, independent of the FTA, by 2003. This is in contrast to exports from countries such as Mexico, Canada, and Brazil that generally enjoy tariff-free access to the Chilean markets as a result of their recent trade agreements with Chile. In the paper industry alone, the U.S. share of Chilean imports has fallen from 30 percent in 1997 to 11 percent in 2001.

The United States expects both political and economic gains to result from a stronger trading relationship with Chile. A FTA with Chile has the potential to increase U.S. exports in many economic sectors through tariff reductions and by clearly establishing and/or simplifying the rules and procedures that U.S. and Chilean importers and exporters must follow. A U.S.-Chile FTA also demonstrates the United States' commitment to free trade throughout the hemisphere, sets the stage for further trade liberalization in the region, and provides opportunities for the U.S. government to address issues such as labor and environment. In addition to the exchange of goods and services, the exchange of knowledge and techniques can lead to more efficient production methods and the dissemination of technologies to reduce costs and protect the environment.

Since 1994, Chile has taken steps to strengthen its democracy and environmental protection. Chile has increased transparency in government initiatives and has implemented active consultation processes in public policy formation. The Chilean government, like the United States, conducted vigorous outreach efforts to include the views of civil society in this FTA, a step considered very important by the U.S. government. In the past decade, the Chilean government has also restructured its processes for enacting and enforcing environmental provisions. Since many of Chile's primary export industries are in natural resource sectors (mining, pulp and paper, as well as fish products), its environmental policies have focused on maintaining its natural resource base (forestry, aquaculture, etc.), as well as on reducing mobile and stationary sources of air pollution in and around Santiago. A U.S.-Chile FTA allows both countries to explore win-win opportunities, including exporting U.S. environmental technologies to Chile that promote the protection of natural resources.

EXECUTIVE ORDER 13141 AND THE ENVIRONMENTAL REVIEW PROCESS

Recognizing the potential for a beneficial relationship between trade liberalization and environmental protection, Executive Order 13141 on "Environmental Review of Trade Agreements" was signed on November 16, 1999 (64 Fed. Reg. 63169, Nov. 18, 1999). The Executive Order sets forth the U.S. government's process for conducting environmental reviews during the negotiation of multilateral rounds, bilateral and regional FTAs, natural resource sectoral liberalization agreements, and other trade agreements, as appropriate. The U.S. Trade Representative and the Council on Environmental Quality oversee the implementation of the order. The environmental review mechanism aims to "contribute to the broader goal of sustainable development" and "help identify potential environmental effects of trade agreements, both positive and negative." The Order establishes the fundamentals of the environmental review process,

including interagency collaboration, public participation, and transparency. This environmental review began when the United States and Chile announced their intent to enter into a FTA, and has continued throughout the negotiations.

To implement the Executive Order effectively, the United States Trade Representative and the Chair of the Council on Environmental Quality, in consultation with relevant agencies, developed Guidelines for the Environmental Review of Trade Agreements ("guidelines")[1]. These guidelines, released in December 2000 (65 Fed. Reg. 79442, December 19, 2000), outline the steps of the review process. The guidelines provide for a scoping process, which serves as the keystone of the review. Throughout the scoping process, domestic environmental impacts of the FTA are identified for analysis. The scoping process includes the identification of realistic alternative negotiating approaches and options for accomplishing the broad objectives of the trade agreement. Analysis includes both qualitative and quantitative approaches, as appropriate, in consultation with private and public entities. Reasonably foreseeable transboundary and global impacts also may be evaluated as appropriate. If significant environmental impacts are identified, an analysis of options to address such impacts will be undertaken.

The Trade Policy Review Group (TPRG) and the Trade Policy Staff Committee (TPSC), administered and chaired by the Office of the U.S. Trade Representative (USTR), are the subcabinet interagency trade policy coordination groups that supervise the environmental review process. The TPSC is the first line operating group, with representation at the senior civil servant level. A TPSC subcommittee serves as the forum to discuss, evaluate, gather opinions, and re-evaluate any likely environmental impacts, both positive and negative, of a FTA; the subcommittee's conclusions were referred to the full TPSC for review of both content and structure. The TPRG, composed of representatives at the Under Secretary level, provides policy-level direction to the review as needed. Agencies that may participate in the TPRG and the TPSC consist of the Departments of Commerce, Agriculture, State, Treasury, Labor, Justice, Defense, Interior, Transportation, Energy, and Health and Human Services; the Environmental Protection Agency, the Office of Management and Budget, the Council of Economic Advisers, the Council on Environmental Quality, the International Development Cooperation Agency, the National Economic Council, and the National Security Council. The United States International Trade Commission is a non-voting member of the TPSC and an observer at TPRG meetings. Representatives of other agencies also may be invited to attend meetings depending on the specific issues discussed.

THE ENVIRONMENTAL REVIEW PROCESS

Consultation and Public Participation

The U.S.-Chile FTA environmental review process officially commenced with the release, on December 14, 2000, of a Federal Register notice that the United States intended to conduct negotiations, initiate an

[1]Executive Order 13141 and its corresponding guidelines can be found at http://www.ustr.gov.

environmental review, and accept and consider comments on the scope of the review and the potential impact of the proposed FTA on environmental laws and regulations (65 Fed. Reg. 78253). A total of 130 comments were received by The Office of the U.S. Trade Representative. Of the comments received, 39 addressed issues related to the environment. (See Annex I for a Listing of organizations that provided environmental comments to the Federal Register.)

Participating agencies identified and provided the analysis of environmental and regulatory impacts, informed by the progress of the negotiations, input from advisory committees, and public comments. Environmental agencies participating in the U.S.-Chile FTA provided the primary expertise necessary for analyzing impacts on environmental media and natural resources according to their area of specialization. Pertinent environmental issues continue to be discussed with the relevant (TPSC) interagency subcommittees, including the U.S.-Chile FTA Environment Negotiating Subcommittee and the TPSC subcommittee conducting the review throughout the review process. Agencies also utilized the opportunity to bring environmental concerns to the attention of the TPSC Subcommittees for the FTA negotiating groups. Ongoing consultations were also established with the Congress, advisory committees (specifically the Trade and Environment Policy Advisory Committee (TEPAC) and industry sector advisory committees), state and local government officials, and the public, regarding potential environmental concerns and benefits associated with the FTA.

Scoping Procedure

The scoping process is critical to the success of an environmental review. Sectors and issues to be analyzed were identified by agencies, experts, advisory committees, academics, state and local entities, and the general public. Selection and prioritization of these issues was an iterative process based on the magnitude of potential environmental effects, the level of public or advisory committee concern, and the availability of analytical tools for environmental impact assessment. Domestic impacts, as mandated in the Executive Order, were the priority of the environmental review. However, in accordance with Section 5(b) of the Executive Order, the TPSC subcommittee examined some transboundary and global effects as well, where appropriate.

The first sectors selected for analysis were those identified as being most economically important based on the level of active trade between the United States and Chile. Sectors were identified utilizing the Department of Commerce's list of the top 25 U.S. exports to Chile and the top 25 Chilean exports to the United States, as well as information on existing tariff and non-tariff barriers between the United States and Chile, the advisory committees, and the public comments received from the Federal Register.

The environmental effects detailed in this review are those determined to be reasonably foreseeable. In considering whether increased trade and investment flows attributable to the FTA might have an impact on the environment, distinction was drawn between baseline impacts (i.e., impacts that are simply a response to existing global market conditions, and are likely to occur independent of a FTA) and impacts that result from the FTA. However, consideration also was given to those sectors where even small changes in trade

flows may produce reasonably foreseeable environmental effects if those effects are concentrated in particular geographic areas.

Agencies then identified those sectors subject to tariffs or other trade barriers that may be reduced or removed by the FTA, and sectors identified in public comments as likely to pose significant environmental effects. The assessment included not only effects that would occur within the United States based on changes in trade flows, but also considered any significant transboundary or global effects that might occur. An economic analysis of these sectors was conducted by the International Trade Commission to determine the expected change in trade flows if the tariffs were reduced or eliminated. Taking into account the economic analysis and the magnitude of the expected changes in trade flows, agencies then estimated the potential corresponding environmental impact brought about by changes in production, transport, or waste disposal of traded products and services.

Analysis of Environmental Regulatory Effects

The environmental review includes an examination of the possible impacts of the proposed trade agreement on U.S. environmental regulations, statutes, and other obligations and instruments. The TPSC subcommittee was sub-divided into smaller groups to analyze, using current U. S. obligations as the baseline, the text in each chapter of the FTA. Alternative approaches were also considered during the interagency process. The groups sought to identify language that may affect, positively or negatively, the ability of federal, state, local or tribal governments to enact, enforce, or maintain environmental laws and regulations. Provisions affecting the United States' ability to fulfill international obligations or participate in international cooperative fora were also considered. Possible regulatory implications considered by the TPSC subcommittee included, *inter alia*, the ability to maintain, strengthen and enforce laws, regulations, and policies on pollution control; management of toxic and hazardous wastes and materials; the protection of natural resources, wildlife, and endangered species; relevant product standards; regulation of pesticides; food safety; and the availability of environmental information to the public.

The regulatory review groups made every effort to respond to issues of public concern, providing comment in some cases even when the FTA did not alter existing U.S. obligations. As a general matter, the scoping provisions of the guidelines provide that the review should consider "opportunities for building on, or incorporating by reference, work already performed" to avoid duplication of effort. At the time the draft environmental review was released for public comment, most FTA negotiating groups had not finalized all components of their proposed texts. In these cases, the regulatory review groups made every effort to discuss the regulatory impacts of the portion of the text available with the negotiators. A final review of the FTA will be conducted and made public once negotiations are complete.

II. POTENTIAL TRADE AND ECONOMIC EFFECTS

Chile's economy and population are considerably smaller than those of the United States. Chile's Gross Domestic Product (GDP) was $70 billion in 2000, which is less than 140th the size of the United States (U.S. GDP was $9.9 trillion in 2000). Chile's population is approximately 15 million, roughly the same population as Florida. Chile's average per capita GDP in 2000 was $4,580, approximately one-eighth the size of U.S. per capita GDP of $35,812.

Chile's goods trade is small when compared to the United States. Chile's goods trade with the world totaled $35 billion in 2000 ($18.3 billion of exports and $16.7 billion of imports), as compared to the U.S. value of world trade of $2.0 trillion in 2000 ($772 billion of exports and $1.2 trillion of imports). The U.S. bilateral goods trade with Chile is small compared to U.S. world trade, roughly accounting for 0.4 percent ($3.5 billion) of overall U.S. exports to the world[2] and 0.3 percent ($3.3 billion) of overall U.S. imports from the world.[3] Chile ranks as the United States' 37th largest trading partner, our 32nd largest goods export market and our 40th largest source for goods imports. In contrast, the United States ranked as Chile's largest individual country export and import partner, comprising 17 percent of Chile's exports and 20 percent of Chile's imports.

The average applied U.S. tariff rate for Chile was roughly 0.5 percent in 2000. Dutiable imports accounted for $1.1 billion (35 percent) of imports from Chile in 2000 and were dutiable at an average rate of 1.8 percent *ad valorem*. The remaining $2.1 billion of imports (65 percent) entered duty free with $419 million (20 percent) entering under the provisions of the Generalized System of Preferences (GSP). A Chilean tariff of nine percent *ad valorem* was applicable to virtually all U.S. export products in 2000. Chile's uniform tariff rate is currently eight percent and is scheduled to be decreased unilaterally to six percent *ad valorem* in 2003.

Given the small level of U.S. bilateral trade with Chile as compared to U.S. trade with the world, as well as U.S. overall production (more than 12 times U.S. goods exports to the world, and more than 2800 times U.S. exports to Chile), it is not surprising that a FTA between the United States and Chile would result in relatively small economy-wide effects. One recent academic study reports that a U.S.-Chile FTA would result in an increase of 0.05 percent ($4.2 billion) to U.S. GDP.[4]

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[2]The top five 2-digit HS categories for U.S. exports to Chile in 2000 were: machinery ($1.1 billion), electrical machinery ($552 million), vehicles ($271 million), aircraft ($166 million), and optic and medical instruments ($165 million). These categories accounted for 64 percent of U.S. exports to Chile.

[3]The top five 2-digit HS categories for U.S. imports from Chile in 2000 were: fruits and nuts (mostly grapes) ($622 million), copper ($573 million), fish and seafood (mostly salmon fillets) ($480 million), wood ($395 million), and beverages (mostly wine) ($137 million). These categories accounted for 69 percent of U.S. imports from Chile.

[4]Brown, Deardorff, and Stern, "Multilateral, Regional, and Bilateral Trade Policy Options for the United States and Japan," Research Seminar in International Economics, Discussion Paper 469, University of Michigan,

III. SECTORAL EFFECTS (DOMESTIC AND TRANSBOUNDARY)

As part of the initial scoping process, Trade Policy Staff Committee (TPSC) agencies sought to identify potentially significant environmental effects resulting from the proposed trade agreement. This analysis considered the current economic relationship between the United States and Chile as its baseline, and identified potential environmental impacts, primarily in the United States, based on the economic changes estimated to result from the further liberalization of trade and investment under a FTA.

Consistent with the guidelines for the implementation of Executive Order 13141, agencies considered a range of reasonably foreseeable environmental effects. The issues were identified based on the existing levels and terms of trade between the United States and Chile, the environmental sensitivity of particular sectors, the significance of the potential impact in the United States, and other relevant information. The agencies also took into account the public comments responding to the Federal Register notice and issues raised during consultations and public briefings.

This section identifies the sectors that the TPSC agencies reviewed, based on the scoping process, as having potentially significant environmental effects in the United States and provides the information that agencies took into account to discern the likelihood of any impact. While the focus of the environmental review is primarily domestic, TPSC agencies also considered potential global and transboundary impacts, which also are contained within this section of the review.

In selecting the relevant transboundary and global issues, the agencies considered the number and breadth of multilateral environmental agreements (MEAs) to which Chile is a party, and the Chilean environmental regulatory system. (A list of these MEAs is provided in Annex II, and a summary of the Chilean system is found in Annex III.) The Government of Chile, although it has no legal or regulatory obligation to do so, is also conducting a review to analyze the environmental impact of the U.S.-Chile FTA in Chile. In order to determine and measure possible environmental impacts of the FTA, the Chilean Office of International Economic Relations (DIRECON) of the Ministry of Foreign Relations is developing, with the assistance of the School of Engineering of the University of Chile, an environmental impact assessment process that complements, using a computable general equilibrium model, their current economic and commercial assessment. The National Environmental Commission (CONAMA) is also examining means to include environmental impact assessment as part of public policy regarding trade agreements. CONAMA will hold consultations in 2002 to evaluate the various methodologies and determine the best legal framework for the adoption of such policies, subject to approval by the CONAMA Executive Board.

The sectors reviewed for this analysis include: agriculture, environmental technologies, fish and marine resources, hazardous waste, mining, and pesticides and toxic substances. The transboundary issues analyzed include: forestry, methyl bromide, heavy metals and persistent organic pollutants, endangered

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species and wildlife, and invasive species. This section does not address the potential regulatory effects of the proposed obligations of the U.S.-Chile FTA. That analysis is found in Section IV of this review.

AGRICULTURE, FISHERIES, AND FORESTRY

Chile is a producer and exporter of a wide range of agricultural, forestry, and fishery products. The total value in 2000 of Chile's exports of agricultural, fish, and forestry products to the world was $5.3 billion. Globally, the most highly traded goods in those sectors included fresh fruits and vegetables, groundfish/flatfish, wines, salmon, processed fruit and vegetables, softwood lumber, logs and chips, and panel wood products (including plywood). The export trade reflects Chile's coastal and marine natural resources, land use patterns, and the country's geography. Chile devotes roughly five percent of its land to agriculture and 22 percent to forest and woodland.

Chile's agricultural, fish, and forestry exports to the United States in 2000 were valued at $1.7 billion, representing one-third of all Chilean export shipments. These exports to the United States were up 56 percent from levels in 1996. This rapid growth largely reflects increased shipments of fresh fruits, fish and seafood products, softwood lumber, panel wood products, and wines. Chile's reliance on the United States as an export market is most pronounced for the following specific products: horticultural products, wine, hardwood lumber, softwood and treated lumber, panel products (including plywood), surimi, crustaceans, and groundfish and flatfish.

In 2000, Chile's imports of agricultural, fish, and forestry products totaled $1.4 billion. Between 11 and 15 percent originated in the United States, which is Chile's third largest supplier after Argentina and Brazil. United States exports to Chile of agricultural, fish, and forestry products were approximately nine to 12 percent of the value of total Chilean exports to the United States in the same sectors.

In reference to trade in agricultural, forestry, and fishing products, the provisions of the U.S.-Chile FTA will not impose changes to the U.S. regulatory framework which requires foreign suppliers to conform with Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the Animal and Plant Health Inspection Service (APHIS), and Food Safety Inspection System (FSIS) procedures. The U.S. regulatory framework, including oversight, residue testing, tolerances, and conditions for pesticide and/or herbicide use, has and will continue to apply equally to all domestically-produced and imported food and agricultural products. In connection with any increase in trade involving meat and poultry products, the proposed FTA contains no provisions that would compromise the level of protection to human health now provided for under the Federal Meat Inspection Act and the Poultry Products Inspection Act.

Agriculture

In 2000, Chile exported over $2 billion in agricultural products globally. Chile's global exports in agriculture were dominated by fresh and processed horticultural products (over $1 billion), and wine (over $500 million). Major horticultural exports include grapes (for table use, wine, and raisins), tree fruit (apples, pears, stone fruit), kiwifruit, avocados, berries, and processed fruits and vegetables.

The United States is a major export destination for Chile, particularly for horticultural products and wine. In recent years, Chile's exports to the United States averaged nearly $1 billion, with average U.S. import

levels exceeding $10 million for certain wines, seed corn and vegetable seeds, apple juice, fresh kiwifruit, and other fresh fruits entering at certain periods of the year (e.g. grapes, avocados, nectarines, apples, and plums). An examination of the value of Chile's exports to the United States as compared with Chile's global exports indicates that Chile's reliance on the United States as an export market is most pronounced for the following products: fresh fruits and vegetables (including grapes and nectarines), wine, processed fruits and vegetables (including juices), sunflower seeds, planting seeds, snack foods, dairy products (excluding cheese), nursery products, and cut flowers.

In recent years, Chile imports of agricultural products were about $1.3 billion, with U.S. exports accounting for about $200 million. Top U.S. exports to Chile include coarse grains, wheat (although U.S. exports declined by over 70 percent in the past year due to the operation of Chile's price band system and preferential access provided to Canada and Mercosur under their FTAs), cotton, feeds and fodders, planting seeds, snack foods, certain dairy products and pet food. An examination of the value of U.S. exports to Chile as compared with Chile's total imports indicates that Chile's reliance on U.S. imports is noteworthy in the areas of coarse grains, cotton, feeds and fodder, hides and skins, animal fats, planting seeds, essential oils, beer, and pet foods.

Chile has a uniform applied tariff rate for all agricultural and industrial products, except for wheat, wheat flour, sugar, and vegetable oils. In 2001, Chile's uniform applied tariff rate was lowered from nine percent *ad valorum* to eight percent *ad valorum*. This uniform rate will continue to be lowered to seven percent in year 2002, then remain at six percent starting in 2003. In general, Chile's applied rate falls well below Chile's WTO bound rate, which declined from 35 percent to 25 percent (by 2004) as a result of Chile's Uruguay Round commitments. Chile's WTO bound rates on its price band commodities and dairy products are scheduled to decline from 35 percent to 31.5 percent by 2004.

Chile continues to maintain a complex import price band system for wheat, wheat flour, sugar, and vegetable oils, which is designed to keep domestic prices for those products within a predetermined range. In January 2000, Chile also began implementing safeguards on these commodities. In January 2001, Argentina initiated a dispute settlement panel in the WTO to examine Chile's price bands and safeguard actions. The panel process is underway, with the United States and the European Union joining Argentina as third party complainants.

The United States has fully implemented its Uruguay Round tariff obligations in agriculture, so the U.S. applied tariffs reflect its WTO obligations. In 2001, approximately 22 percent of U.S. agricultural tariff lines were bound in the WTO at zero duties; 36 percent of the lines have duties between zero and five percent *ad valorum* equivalent; 20 percent of the lines have duties between five and 10 percent; 13 percent of the tariff lines have duties between 10 and 20 percent; and nine percent of the tariff lines have duties greater than 20 percent. Many, but not all, of the agricultural tariff lines with duties greater than 20 percent are the "over-quota" tariff lines associated with U.S. tariff rate quotas implemented as a result of the Uruguay Round.

The U.S. approach in the FTA tariff negotiations was designed to take into account the existing tariff

structure for agricultural products and the advice received from the public concerning import sensitivities and export priorities.

Conclusion

Future trends in U.S.-Chile bilateral agricultural trade are unlikely to be appreciably influenced by the FTA in ways that pose environmental consequences. This conclusion is based on the recent pre-FTA demand-driven increases in Chilean exports to the United States and from the character of the vast majority of bilateral agricultural trade presently occurring between the United States and Chile. It also considers Chile's current reliance on markets other than the United States (Argentina, Brazil, Canada, Ecuador, and Paraguay) for two-thirds of imported agricultural products.

As noted above, Chile's agricultural trade balance (in total and with the United States) is strongly in surplus. Reliance on the United States for such imports has recently accounted for only about 11-15 percent of Chilean import requirements. In areas where the United States is among the top two or three suppliers (e.g. coarse grains), the impact on U.S. domestic production that would be required to supply a modest increase in demand vis-a-vis other important suppliers (Canada and Argentina) is negligible. Thus, the United States does not expect changes in the level of economic activity (scale effect), significant shifts in the composition of the national trade portfolio that would potentially change competitive dynamics among national industries in ways that may alter environmental risks, or changes in production methods (technique effect). The effects of the proposed FTA on the environment of the United States due to such limited scale, composition, or technique effects in the agricultural sector is therefore expected to be negligible.

Fisheries

Economic Data

Chile's long coastline is adjacent to major ocean fish populations sustained by the ideal conditions of the Humboldt current. Chile also has an outstanding location in its southern lakes for raising fresh water fish. Its geography, combined with high quality, locally available inputs, advanced technology, lower labor costs, and excellent transportation links, make Chile a low-cost fish producer. Trade in the fisheries sector between the United States and Chile is relatively small, and is heavily weighted in favor of Chilean exports to the United States. U.S. exports to Chile have averaged $635,000 for the last five years, with frozen shrimp and fish products being the U.S. dominant exports. Although U.S. exports to Chile increased from 1999 to 2000, exports in the first half of 2001 indicate a reversal of this trend.

U.S. fishery imports from Chile have increased steadily in the past five years, exceeding $547 million in 2000. Farmed salmon imports (that enter the United States duty free) represented nearly 75 percent of the total, and Patagonian Toothfish (commonly known as Chilean Sea Bass) and swordfish imports accounted respectively for about $13 million and $7 million of the total in 2000. With wild salmon only seasonally available, farmed salmon now establishes the market and has placed salmon on most menus and

in many grocery stores in the United States.

Chile's tariff system applies a flat rate of eight percent on imports from the United States, which falls to seven percent in 2002, and six percent in 2003. Eliminating tariffs under a FTA could encourage interest in the Chilean market by U.S. exporters. However, the United States is a relatively high-cost producer with limited stocks and flat global export growth. Chile, on the other hand, is a small country producing significant amounts of low-cost seafood for export. Given the already relatively open Chilean market, it is unlikely that U.S. exports for most fish and seafood products will increase significantly due to the FTA.

Concerned about the rapid increase in Chilean salmon imports, the U.S. salmon industry lodged a complaint with the U.S. government in 1997 maintaining that salmon fillets were being sold below the cost of production or less than the domestic price. The U.S. government, following an investigation, found that Chilean salmon was being sold at less than normal value, and imposed antidumping duties averaging 5.19 percent *ad valorem*. Imports of Chilean salmon fillets to the U.S. market have continued since the ruling in July 1998.

Migratory species

The great distance between Chile and the United States minimizes the chance that one country's fisheries policies might have a direct impact on the other's resources. With the exception of swordfish, Chile's harvest of highly migratory fish stocks is not significant. Chile exported approximately $7 million of swordfish to the United States in 2000; however, the two countries are engaged in cooperative swordfish research to improve stock management, including the sampling of swordfish and other highly migratory species for genetic testing. Discussions regarding swordfish management policies have also occurred between Chile and the United States.

As with other trading partners, the United States is concerned about the Pacific population of leatherback sea turtles, which, while not unique to Chile, has declined to less than 10 percent of its size in the 1980s. Although the decline can be attributed primarily to an overharvest of eggs and a lack of protection at nesting beaches, these animals also are incidentally taken in longline fisheries all around the Pacific. For the past three years, sea turtle issues have been discussed with the Chileans at annual meetings under the U.S.-Chile fisheries Memorandum of Understanding (MOU), signed in July of 1995. Considerable progress has been made under this MOU as result of constructive collaboration established between the U.S. National Oceanic and Atmospheric Administration-National Marine Fisheries Service (NOAA-NMFS) and its Chilean counterparts on quantifying sea turtle bycatch in commercial and artisanal fisheries. Measures have been taken to reduce sea turtle mortality, including observer training and transfer of technologies and procedures used by the U.S. longline fleet to minimize impacts on sea turtles. Chile is also evaluating the option of closing their longline fishery at certain times and in a manner that would reduce sea turtle bycatch.

Salmon

As noted above, U.S. imports of Chilean farmed salmon have increased dramatically in recent years, and farmed Chilean salmon currently enters the United States duty free. Concerns have been raised by U.S. salmon producers, including the State of Alaska's wild salmon industry, that the Chilean salmon aquaculture industry may not be subject to the same environmental compliance standards as its U.S. counterparts. The Alaskan salmon producers view the allegedly lower environmental standards as a competitive advantage to Chilean producers. The Chilean government recently updated environmental regulations that apply to all aquaculture operations, including salmon farming, which are in the final stages of implementation. Since 1997, environmental impact assessments are required on all new production activities in Chile, including aquaculture (see Annex III).

Citing animal health concerns, Chile has refused to accept live salmonid eggs from U.S. (Washington State) egg farms since 2000. U.S. producers, who had been supplying the Chilean salmon farming industry with eggs for years, question whether the animal health claims raised by Chile were designed to protect their emerging domestic salmon egg industry. Officials from the U.S. Department of Agriculture (APHIS), the Department of State, and the Department of Commerce (NOAA-NMFS) worked with the Ministry of Economic Development from the Subsecretariat of Fisheries of the National Fisheries Service of Chile (SERNAPESCA) in an attempt to resolve the issue through a Memorandum of Understanding (MOU) and open trade. Although progress has been made, discussions continue on reaching a satisfactory resolution. The U.S.-Chile FTA will have no effect on the current tariff schedules, as salmon eggs currently enter both countries duty free.

Cooperative Efforts

The United States and Chile cooperate on fishery and related environmental issues in a number of different fora. The previously mentioned MOU between the United States and Chile has greatly strengthened bilateral fishery relations and provides a framework to address potential environmental issues arising in the fisheries sector. Likewise, the two countries cooperate in a number of areas such as: research on sea turtles, whales, and small pelagics (such as sardines), and conservation of Patagonian Toothfish and highly migratory species (such as swordfish). In addition to these bilateral efforts, the two sides participate in international fisheries conservation efforts such as a multilateral fisheries enforcement network. Both countries also possess relatively rigorous domestic fishery management regimes that should enable the two countries to effectively address any unexpected environmental impacts.

Conclusion

Although some fishery issues between the United States and Chile in recent years have caused friction, the two countries have cooperated and resolved issues through a number of fora. Furthermore, given the relatively open trade and low rates of fishery duties currently in place, increased trade in the U.S. fishery sector as a result of the U.S.-Chile FTA is unlikely. Consequently, the United States does not expect an increase in the level of imports coming from Chile, and the U.S.-Chile FTA is unlikely to significantly impact trade or the environment.

Forestry and Forest Products

Goods traded from the forestry and forest product sectors generally fall under chapter 44, 47, 48, or 94 of the Harmonized Tariff Schedule (HTS). Chapter 44 encompasses wood and articles of wood (e.g., sawnwood, veneers, plywood); chapter 47 encompasses pulp of wood or other fibrous cellulosic material and waste and scrap paper or paperboard; chapter 48 encompasses paper; and chapter 94 encompasses wood furniture and prefabricated wood buildings.

Economic Data

Any environmental issues that may surface as a result of shifts in trade flows of forest products from the proposed FTA are likely to occur in two primary areas. The first area is that of policy and management practices on forest land and forest resources, particularly those which lead to the extraction of trees for processing, which could lead to a loss of biodiversity. The second area of concern is industrial pollution from the processing of a multitude of products from trees (sawn wood, panels and engineered wood products), wood fibers (paper and paper board), and wood biomass (energy).

Total wood products trade (U.S. exports to Chile plus U.S. imports from Chile) between the United States and Chile exceeded $520 million in 2000. Of this amount, approximately 75 percent represents imports of wood and articles of wood (chapter 44) from Chile into the United States.[5] Although the value of U.S. chapter 44 imports from Chile has increased over the last five years (1996 - 2000) by as much as 55 percent, the value of pulp imports from Chile have decreased during the same period reflecting primarily the improved development of Chile's own paper making facilities. Paper and paperboard imports from Chile to the United States increased by more than 67 percent over the same period as additional evidence of the development of Chile's paper industry. Over the last three years, U.S. wood products exports to Chile have been relatively stable or increased slightly in all sectors except paper (chapter 48). Nevertheless, the U.S. has a trade deficit with Chile for all forest products. The only sector where the United States has a trade surplus with Chile is paper, where U.S. exports exceeded U.S. imports by about $44 million in 2000.

Transboundary Issues

The level of enforcement and administration of environmental regulations in the Chilean forestry and forest products sectors has received significant scrutiny. The U.S. industry is required to adhere to U.S. environmental regulations at its own cost. If enforcement, administration, and the accompanying cost-share burden in Chile prove to be significantly lower than those in the United States, comparable costs of

[5] *U.S. Imports for Consumption*. U.S. Department of Commerce, U.S. Treasury, and U.S. International Trade Commission, 2001.

production would be lower for Chilean producers. One consequence may be that U.S. logging companies may choose to operate in Chile, possibly transferring environmental impacts from the United States to Chile. Again, due to the current virtual absence of U.S. tariffs on Chilean imports, this agreement is not likely to encourage increased exports from Chile due to liberalization of trade in the forest sector.

Chile produces primarily wood chips from its native forests. Chile ranks only third behind Canada and the United States in wood chips exports. Further development of Chile's forest products sector has occurred mainly through expanded commercial forestry plantings, with excellent adaptation of Radiata Pine and Eucalyptus plantings to Chile's terrain and climate. Further opening of native forests in Chile has the potential to continue these trends, especially through the development of relatively untouched and unmanaged native forests in southern Chile. Although stalled for several years, the controversial Native Forest Law proposal, if and when approved, could add 7.5 million hectares of primarily native forests to the current resource base (mostly plantations) of about 1.9 million hectares. (This law is discussed briefly in Annex III of this review.)

Biodiversity could be affected by the monocultivation associated with plantation forestry. Native forest conversion to plantation-style forests can involve habitat destruction to the detriment of endangered plant species and wildlife. It has already arguably been detrimental to the conservation of one endangered shrub species and three endangered tree species endemic to the Chilean coastal range of Regions VII and VIII.[6]

Clear-cutting and burning during the conversion of native forests to plantations leaves the soil with insufficient cover during the first two to three years of the plantation, leading to serious soil erosion during intense winter rainstorms. In 1995, a Chilean Central Bank study warned that native forests eligible for productive use could disappear through conversion to plantations or non-forest uses within 30 years. Other potential environmental impacts that are common in many forest plantation management regimes stem from the use of pesticides and herbicides.

Public comments received from American producers indicate strong concern that the Chilean forest industry may enjoy an unfair advantage given the lack of integration of relevant Chilean laws on environmental protection and of adequate legal mechanisms to ensure proper enforcement of environmental laws in Chile. One of Chile's existing forestry laws, DFL 701 of 1974, requires all native forest landowners to file a forest management plan with the National Forest Corporation (CONAF), a government entity, before cutting down any trees. CONAF has 120 days to accept or reject the plan. The cutting of three types of trees is prohibited altogether in Chile: alerce, araucaria, and cypress of the Guaitecas. Since the passage of the 1994 Environmental Framework Law, the timber industry is required to complete environmental impact studies when they submit proposals for large-scale timber operations. Whether a timber operation project must submit an impact study depends on the magnitude of the proposed project and the significance of its

[6] Lara, Antionio and Thomas T. Veblen "Forest Plantations in Chile; A Successful Model?", in Afforestation: Policies, Planning and Process, Alexander Mather, Ed. Belhaven Press, London. 1993.

potential environmental impact (see Annex III). Resources and enforcement of existing laws also may be an issue. In 1995, BNA reported that CONAF had a yearly budget of $2.5 million and only 75 people with 30 vehicles to patrol 14 million hectares of native forest and protect it from illegal cuttings. The Washington Convention for the Protection of Fauna, Flora, and Scenic Beauty of the Americas, to which Chile is a Party, blocked some projects that could be detrimental to native forests and biodiversity. Efforts to develop new legislation to protect native forests have been introduced, but not yet enacted, by the Chilean Congress.

Cooperative Efforts

The U.S. government participated in Chilean projects to create the national environmental agency (CONAMA) and draft environmental legislation. The initial sectors in which methodologies for trade and environment assessments were developed included the forestry (pulp) sector, along with fisheries and mining. Chile has emphasized and supported private sector development in forestry and forest products. These policies have prompted concerns from the U.S. forest products industry that ineffective enforcement and legal regimes in Chile would give Chilean firms a competitive advantage in the forest products market.

The United States and Chile work actively and cooperatively in several international and inter-governmental fora with specific emphasis on the sustainable management and conservation of forest and other natural resources. Many of these processes include transparent and diverse stakeholder involvement in both countries. Examples of these initiatives include the United Nations Framework Convention on Climate Change, the United Nations Convention on Biological Diversity, and the United Nations Convention to Combat Desertification. These arrangements are discussed in Annexes II and IV of this report. One example of cooperation falls under the Montreal Process Criteria and Indicators (C&I) for sustainable management and conservation of temperate and boreal forests. The Montreal Process is a 12-country initiative that grew out of the 1992 United Nations Conference on Environment and Development in Rio de Janeiro, Brazil. The declaration of commitment to the final draft of seven criteria and 67 indicators was signed in Santiago in 1995.

The overall intent of the Montreal Process work is to gain commitments from participating countries to develop and incorporate the C&I and its elements into national-level policy and management decision-making processes. Through these efforts, and other regional processes around the globe, both countries demonstrate their priorities to achieve sustainability goals while recognizing the crucial cross-linkages among the conservation of forest resources, sustainable economic development, and social-cultural norms. For example, Chile participated in this year's U.S.-hosted workshop of the Technical Advisory Committee for the Montreal Process in Portland, Oregon. Participating countries of the Montreal process are showing concrete examples of on-the-ground and institutional progress. Chile and the U.S. Forest Service are involved in a cooperative process to improve monitoring and inventory systems of forest resources by implementing scientific survey and statistical methodologies. Chile and the other members of the Montreal Process will produce national reports in 2003 on the status of C&I implementation in their countries.

Conclusion

Chile has a uniform tariff of eight percent on imports of U.S. wood products, which will be reduced by one percent per year until it reaches six percent in 2003, independent of the FTA. U.S. tariffs in the wood products sector are generally low or non-existent. However, even where wood products are subject to a tariff, most products from Chile enter duty free under the Generalized System of Preference (GSP). Products and countries listed under the GSP receive preferential duty free entry into the United States. Elimination of tariffs in this sector could lead to a marginal increase in U.S. exports of forest products to Chile, although Chilean tariffs on U.S. forest products are already relatively low. Given that a FTA with Chile is not likely to result in a significant change in the price of Chilean wood, and that Chilean wood products are such a small percentage of U.S. wood imports, any changes in the flow or level of forest products trade between the two countries attributable to the FTA is not expected to be significant. There is little expectation that domestic environmental impacts will occur in the United States as a result of the FTA with Chile.

ENVIRONMENTAL TECHNOLOGIES

Environmental technologies can improve the quality of life and economic well-being, enhance economic efficiency, and foster environmentally sound business practices by helping control and mitigate air, water, and soil pollution. The broad sector of environmental technology includes the following subsectors: water and wastewater treatment, air pollution control, solid waste management, industrial wastewater treatment, consulting and engineering services, and hazardous and medical waste management. The functional areas for environmental technologies include: pollution control, pollution avoidance, monitoring and assessment, and remediation.

Since 1994, environmental issues have moved increasingly into Chile's political and social mainstream. Environmental concerns today are considered a fundamental factor, socially as well as legally, in Chile's economic development plans. Legal and regulatory structures are in place and evolving, public and industry environmental awareness and participation in environmental decision-making are growing steadily. Science-based standards and tools are gaining prominence, major new mining projects are employing state-of-the-art environmental protection and waste recovery technology, and fixed-source air pollution in the Santiago area has been substantially reduced in recent years.[7]

Economic Data

Chile has the most "open" economy in Latin America in terms of tariffs and foreign direct investment. Chile imposes the country's common import tariff, an eight percent *ad valorem* tariff on all imported environmental products. An 18 percent Value Added Tax (VAT) must also be paid by the importer.

The Chilean environmental technology market in 1999 was valued at approximately $810 million and is expected to grow eight to 10 percent through 2002. Any increase in Chilean imports of pollution technologies due to a reduction in tariffs has both direct and indirect potential impacts. Direct changes result from a reduction in trade or investment barriers on these technologies. Given the eight percent *ad valorem* tariff and a projected decrease to six percent by 2003, changes in Chilean environmental technologies imports from the FTA are likely to be small (the technologies will only be slightly cheaper). Therefore there is no reason to expect much change in the projected growth rates. The demand for environmental technologies may also be affected by changes in tariff and investment barriers on other products, such as construction materials, that may be used or purchased in concert with environmental technologies (complementary goods). This is more difficult to predict given that some of Chile's export sectors may see substantial reductions in U.S. tariffs, or may increase production to export more products, and therefore demand more environmental technologies. However, given the fact that most of Chile's exports to the United States are not capital-intensive (or in cases where they are, such as mining, the tariffs are already low), one would expect only small indirect changes as well.

[7] *Chile Environmental Technologies Export Market Plan*, U.S. Department of Commerce, May 1998.

In the longer term, the market is expected to expand significantly as major operating and infrastructure investments are made to the recently privatized 13 regional water companies. The Chilean Development Corporation (CORFO), which still owns a major stake in these regional water companies, has approved additional funds estimated at $1 billion to be used over the next several years for infrastructure upgrades of the 13 regional water companies and three new wastewater treatment plants in the Santiago area.

Estimates of the value of Chile's major environmental subsectors' markets are: water and wastewater treatment ($270 million); air pollution control ($320 million); solid waste management ($80 million); industrial wastewater treatment ($60 million); consulting and engineering services ($60 million); and hazardous and medical waste management ($20 million).[8] It should be noted that Chile's environmental market is still relatively small compared to the country's economic prosperity.

The U.S. environmental technologies market in 1999 was valued at approximately $197 billion and is expected to grow two to three percent through 2002. The U.S. environmental technologies sector is in its mature stage, evidenced by its sluggish growth rate and other factors such as high merger and acquisition activity. This is quite different from Chile's environmental technologies sector, which is in its growth stage (similar to the U.S. market in the 1970s). Global U.S. environmental exports have more than doubled since 1993, as U.S. technologies have been well-received, rising from $9.6 billion to $21.3 billion in 1999. Recent estimates show that the United States supplies 45 percent of Chile's environmental technologies imports, while Europe and Asia have 35 percent and 20 percent market shares respectively.[9]

Approximately 20 percent of all U.S. exports of environmental technologies fall in the consulting and engineering services category, which do not affect U.S. production. The production of water and air pollution equipment does, like all production processes, carry a small potentially negative environmental impact in the United States (*e.g.*, emissions from the production of such technologies), but this is likely to be far outweighed by the positive overall environmental impact of the implementation of these materials into environmental projects in Chile, such as a sanitation treatment plant in a densely populated urban area.

U.S. environmental technologies exports to Chile are approximately $80 million. U.S. environmental technologies imports from Chile are less than $1 million. In the United States, the FTA will have a negligible environmental impact on the environmental technologies sector, as current production capacity is sufficient to meet any increased demand from Chile.

Chile's Environmental Technology Market

A large portion of Chile's environmental technologies market to date has been centered on providing environmental solutions for Chile's key export sectors (mining, pulp and paper, and fish products) and for mobile and stationary sources of air pollution in and around Santiago. CODELCO, Chile's largest state-

[8] Ibid. (Figures adjusted to reflect projected growth in the Chilean environmental technologies market.)

[9] Ibid.

owned mining company, had an annual environmental budget of $100 million through 2000. Chilean mining concerns have allocated $800 million over 10 years to reduce pollution from key smelting facilities. By 2001, all smelters must comply with new air quality regulations. Santiago's 2,500 industrial facilities are subject to increasingly strict air emission standards. Liberalization of environmental goods and services under the U.S.-Chile FTA may provide additional opportunities to meet Chile's environmental technology needs.

Conclusion

Any increase in trade in the environmental technologies sector between the United States and Chile as a result of a U.S.-Chile FTA would likely have a small to moderately positive impact on the overall environment. In the United States, the FTA will have a negligible environmental impact, as U.S. domestic capacity could easily handle the small increase in production resulting from a FTA. Bilateral environmental cooperation would only expedite this positive effect.

HAZARDOUS WASTE

The U.S. system to regulate hazardous waste[10] is one of the most stringent in the world, following the waste from identification to its final disposal. This "cradle to grave" regulatory system is governed by the Resource Conservation and Recovery Act (RCRA), which was enacted in 1976 with the intention of reducing and effectively managing hazardous waste. Under RCRA, the three main parts of the "cradle to grave" waste management system are generators, transporters, and treatment, storage, and disposal (TSD) facilities. RCRA also has a corrective action program, which is a cleanup program designed to ensure the remediation of hazardous releases and contamination associated with RCRA regulated facilities. The United States also enacted the Superfund program, which provides for the cleanup of abandoned hazardous waste sites, and an enforcement program to ensure compliance with the nation's hazardous waste regulations.

Landfills are used as final disposal sites for a large portion of the nation's hazardous waste. EPA requires that all U.S. landfills have double liners, leachate collection systems, groundwater monitoring, and gas monitoring. Similarly strict standards for hazardous waste apply to other TSD facilities, including incinerators and surface impoundments. As further described below, although the U.S.-Chile FTA is unlikely to lead to a significant change in the amount of hazardous waste produced in the United States, any increased production can be handled by existing TSD facilities. Moreover, any increase in hazardous waste production will not result in a need to alter the existing equipment or standards.

Economic Data

International Trade Commission data indicate that the reduction of Chile's eight percent tariff on the 441 most prominent trading sectors with the United States would lead to $462 million of additional exports. It is unlikely that such a small change in production would significantly increase the production or transport of hazardous wastes in the United States. Any increase that may occur would be regulated under the Resource Conservation and Recovery Act (RCRA), the Toxic Substances and Control Act (TSCA), and other environmental statutes which provide a strong regulatory framework in the United States to protect human health and the environment. The transport of hazardous materials, of which hazardous waste is a subset, is regulated by the U.S. Department of Transportation. Increased waste generation may result in a slight increase in the number of spills, however, the U.S. government strictly regulates the appropriate responses to incidents involving hazardous materials.

Although domestic changes in the production and handling of hazardous waste as a result of the U.S.-Chile FTA are expected to be minimal, a few sectors of the U.S. economy may see an increase in their hazardous waste production to meet growing demand from Chilean consumers. Based on import/export data from the Department of Commerce, key trading sectors with Chile that have a high potential for generating hazardous waste were identified and included the production of automobiles, electronics and computers,

[10] In general, hazardous wastes include wastes that EPA has listed as hazardous wastes and wastes that exhibit the characteristic of ignitability, corrosivity, reactivity, or toxicity.

pharmaceuticals, leather, pulp and paper, medical equipment, and mining. The remainder of this section discusses examples of the kinds of wastes generated by three of the industries mentioned above and how RCRA and other environmental statutes address these wastes.[11]

The production of pulp and paper results in the release of air pollutants such as methanol, hydrochloric acid, sulfuric acid, and chloroform. It also results in the release of ammonia into the water. However, pulp and paper mills are subject to RCRA requirements governing wastewater discharges as well as emissions standards for hazardous air pollutants. Of the generated waste, about 10 percent is transferred off-site or released into the environment. About 90 percent is managed on-site through recycling, energy recovery, or treatment. RCRA-regulated wastestreams are mostly managed through wastewater treatment systems, with the majority of the industry's wastestreams being nonhazardous wastewaters and sludge. Industry air and effluent emissions are regulated by the Clean Air Act and Clean Water Act, respectively.

The production of motor vehicles generates pollutants such as solvent wastes, acid wastewater pollutants (hydrochloric, sulfuric, and nitric), cyanide wastes and waste oils. Solid wastes such as metal and paint wastes are generated also. Of the production-related waste, 66 percent is either transferred off-site or released into the environment. About 33 percent of the waste is managed on-site through recycling, energy recovery, or treatment processes. These wastes are subject to RCRA regulations to ensure that they are managed in an environmentally sound manner. RCRA requirements for generators, transporters, TSD facilities, and land disposal must all be addressed by the motor vehicle equipment manufacturing industry. In addition, air and water emissions are regulated by the Clean Air Act and Clean Water Act, respectively. It is worth noting that most auto manufacturers in the United States have recently introduced stringent recycling requirements for their suppliers (tires, belts, etc.).

Many wastes generated by the electronics/computer industry are considered RCRA toxicity characteristic hazardous wastes due to constituents such as silver, trichloroethylene, and lead. These wastestreams are regulated by RCRA for disposal, recycling, treatment, and energy recovery. Of the pollutants that are generated, 81 percent are managed on-site using recycling, energy recovery, or treatment processes. About 12 percent of the waste is managed off-site, with the remainder being disposed of off-site. Air and water emissions are regulated by the Clean Air Act and Clean Water Act, respectively.

Transport of Hazardous Waste

The proposed FTA and any increased domestic waste generation is not expected to result in shipments of hazardous waste from the United States to Chile or vice versa. A number of factors, including capacity, geography and international commitments undertaken by Chile and the United States will prevent the movement of hazardous waste between the Parties of the FTA. First, as a policy matter, the United States does not ship hazardous waste to non-OECD countries. Second, Chile is a Party to the Basel Convention

[11] The data presented are from EPA's Office of Compliance profiles on selected major industries. Although the data are from 1995, they provide a general overview of how wastes are managed in the three sectors.

on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and, thus, is not permitted to export hazardous waste to, or import from, a non-party, such as the United States.[12] The Basel Convention seeks to minimize the transboundary movement of hazardous waste and requires that parties manage their hazardous waste in an environmentally sound manner. As a Party to the Basel Convention, Chile cannot trade Basel-covered wastes with non-parties in the absence of a bilateral, multilateral, or regional agreement regarding the transboundary movement of hazardous waste. The United States and Chile do not have such an agreement. Third, the United States has sufficient capacity to treat and store hazardous waste produced domestically. In addition, the long distance between Chile and the United States makes transport of hazardous waste between the two countries unlikely.

Conclusion

The proposed U.S.-Chile FTA is unlikely to lead to a significant change in the production of hazardous waste. The anticipated environmental effects are expected to be minimal, with the only possible domestic impacts arising from increased production. Exports from and imports to Chile are not an issue due to multilateral commitments of both Parties, and U.S. capacity to treat and store wastes produced domestically. The strict regulation of domestically generated hazardous waste by RCRA will address any increases in U.S. production of hazardous waste.

[12] Although the United States has signed the Basel Convention, it has not yet ratified it.

INVASIVE SPECIES

Organisms that are introduced from their native habitat to a new habitat in which they did not naturally occur are typically referred to as "non-native," "alien," or "exotic" to the new environment. Some of these introduced species, including most U.S. food crops and domesticated animals, provide major economic benefits. A relatively small percentage of introduced species, perhaps one percent of all species introduced, become established as free-living populations and cause serious problems in their new environments, including rangelands, aquatic areas, wildlands, and croplands. These are known as "invasive species," defined as "alien (non-native species) whose introduction does or is likely to cause harm to the economy, the environment, or human health."[13]

Invasive plants, animals, and pathogens have been estimated to cost the United States more than $100 billion a year.[14] The costs to society worldwide involve damaged goods and equipment (*e.g.*, fouling of industrial water intakes due to zebra mussels in Great Lakes), power failures (*e.g.*, short circuits in power lines caused by brown tree snakes in Guam), crop losses, water shortages (*e.g.*, tamarisk invasions of riparian areas in the Southwest), habitat degradation, increased rates and severity of fires and other natural disasters (*e.g.*, cheatgrass on Western lands), spread of human and wildlife diseases, and even lost lives (*e.g.*, West Nile virus).

Invasive species are typically introduced into a country through means associated with cross-border transportation of people or goods. The movement of vehicles and the transport of people and goods all provide pathways for the introduction of invasives. Such movement and transport are characteristic not only of trade in goods but also of trade in services and foreign direct investment. The volume and pace of international traffic is increasing in nearly all modes. As international trade, tourism, and travel expand in the process of globalization, invasive species are being moved around the world further and faster than ever before.

Invasive species may be carried and released either intentionally or unintentionally. They may be moved intentionally for commercial or other purposes, such as imported plants for use as crops, timber production, or garden ornamentals, or animals imported to keep as pets. People also unintentionally move "hitch-hiking" or "stow-away" organisms. For example, insects may infest wood packaging; barnacles may attach to the hulls of intercontinental ships; ballast water taken on in one port may contain a variety of non-native organisms discharged into a distant harbor; insects may be carried on fruits and vegetables; or insects, weeds and diseases may infest horticultural shipments. Once an invasive species is established in a new venue, it has the opportunity to expand its range further, not only in the country of introduction but also in the territories of other trading partners along a trading pathway.

Transboundary Issues

[13] The U.S. Executive Order 13112 on Invasive Species, http://www.invasivespecies.gov

[14] Pimentel, D. et al. 2000. Environmental and economic costs of nonindigenous species in the United States. BioScience 50:53-65.

The potential for the transboundary movement and introduction of invasives between two areas is a function of several factors. Environmental conditions, such as similarities in climate or habitats, are prime factors in determining the likelihood and extent of the introduction of invasive species. Another factor involves the volume and nature of the traffic between the two areas. Among the nations of the world, the United States may be especially vulnerable to the introduction of invasive species because of the wide range of climate and habitats and large volume of foreign travel and commerce throughout the United States.

The West Coast of the United States and Chile have similar terrain, climate, and natural habitat types. On the marine side, water temperature and salinity regimes are similar enough that species from either country could become established in the other. Landward, Chile's 2600-mile long territory from the southern border of Peru to Cape Horn is, in general terms, a mirror image of the north-south range of climate found on the Pacific Coast of North America from central Mexico to Southeast Canada. Because of these correlations, species adapted to the U.S. coast from the California/Baja California border to the Washington State/British Columbia border may be well suited to establish in corresponding areas extending from the northern to the southern regions of Chile and vice-versa. For instance, climatic conditions in central and southern Chile are very similar to those among the coast of the Pacific Northwest and lower elevations along the west-side of the Cascade Range. A number of North American tree species, particularly those indigenous to the Pacific Northwest, are grown in Chile for purposes such as timber production.[15]

Similarly, two of the world's five Mediterranean-climate regions are found in California and Chile.[16] In fact, these two regions are both world centers of vascular plant diversity, primarily of the Mediterranean floristic type. 4,979 species and intraspecific varieties are found within Chile's land area of 292,000 square miles, and nearly half of all native species are endemic, i.e. found only within Chile.[17] California, similarly, hosts over 5,046 native vascular plant species, 30 percent of which are endemic, within its land area (158,900 square miles).[18]

Other ecological factors may also be relevant to the potential for introductions between the two areas, such as the extent to which one area contains invasives that have not yet been introduced to the other (the land territory of California and the waters of the U.S. Pacific coast both reportedly contain numerous invasive species which have not yet appeared in corresponding areas of Chile). More information is needed, however, to assess the vulnerability of the range of habitats in each country to invasive species originating in the other. A recent review of various factors relating to invasions did not reach firm conclusions

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[15] Pest Risk Assessment of the Importation of *Pinus radiata* from Chile. p. 13. September, 1993. USDA/Forest Service.

[16] Harold A. Mooney, 1988. Lessons from Mediterranean-Climate Regions, p. 158-59. In E. O. Wilson, ed. Biodiversity. Washington: National Academy Press.

[17] Mary T. Kalin Arroyo et al., 2000. Plant Invasions in Chile: Present Patterns and Future Predictions. P. 387. In Harold A. Mooney & Richard J. Hobbs, eds. Invasive Species in a Changing World. Washington: Island Press.

[18] Harold A. Mooney, 1988. Lessons from Mediterranean-Climate Regions, p. 161. In E. O. Wilson, ed. Biodiversity. Washington: National Academy Press.

regarding Chile's overall vulnerability to invasives.[19]

Traffic between the United States and Chile is a major factor in the potential for transboundary movement of invasive species. As discussed earlier in the review of the agricultural sector, Chile is a major exporter of a wide range of horticultural products, as well as certain other product categories such as wood, forest, and aquaculture products which can raise concerns regarding the introduction of animal and/or plant diseases and pests, including invasive species. Horticultural materials, in particular, provide important pathways for introduction of new invaders (which may consist of both the plants themselves and hitchhikers in nursery material shipments) into the United States. Regarding trade in agricultural products generally, Chile imposes tariffs on some agricultural products that are significantly higher than its uniform *ad valorem* tariff, including wheat, the shipment of which can be a pathway for the introduction of invasive weeds. Furthermore, Chile's strict animal health and phytosanitary measures prevent the import of certain agricultural products such as some citrus fruits.[20] If the proposed FTA reduces or removes current barriers to imports of products which involve pathways for invasive species, changes in the potential for introductions of invasives could result. However, existing regulations that operate to prevent entry of invasives would not be changed by the FTA and would continue to apply in both countries.

The issue of invasive species also arises with respect to forest products. Logs, lumber, and other un-manufactured wood articles from Chile must meet a number of requirements prior to import into the United States, including a requirement for a permit. Monterey or Radiata pine logs must be accompanied by a certificate stating that the logs have been harvested from live healthy trees, debarked and fumigated. The logs are then assigned to an approved facility in the United States for heat treatment. Logs and lumber of species other than Monterey or Radiata pine must be heat treated prior to import.

Although regulatory systems and border controls have been significantly improved, one example of an invasive species introduced from one FTA country to the other is the yellow starthistle, *Centaurea solstitialis*, which originated in Eurasia but was introduced to California by way of alfalfa imported from Chile in the 19th century, and now infests an estimated 23 million acres of the American West, harming wildlife and livestock.[21] The Peruvian pepper tree, *Schinus molle*, is native to Peru and Chile and has been identified as a mild invasive in California, although it is unclear whether it was introduced from Chile.[22]

Mitigating Factors

Over the long term, the most cost-effective strategy against invasive species is to prevent them from becoming established. Currently, a limited number of invasive species already identified as such for the

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[19] Mary T. Kalin Arroyo et al., 2000. Plant Invasions in Chile: Present Patterns and Future Predictions. In Harold A. Mooney & Richard J. Hobbs, eds. Invasive Species in a Changing World. Washington: Island Press.

[20] Id.

[21] Barbra H. Mullin, et al., Invasive Plant Species, 1 Council for Agricultural Science and Technology No. 13 Feb. 2000.

[22] California Exotic Pest Plant Council, <www.caleppc.org/info/plantlist.html>.

United States are listed as regulated species under federal laws governing specific types of species such as noxious weeds, injurious fish or wildlife species, or aquatic nuisance species. Importation and interstate transport is prohibited for this relatively small number of species (compared to the total number of species in nature that are federally listed as noxious weeds or injurious wildlife). For instance, the U.S. Fish and Wildlife Service prohibits the entry into the United States of fifteen species or genera of Injurious Wildlife Species, unless permitted for zoological, educational, medical, or scientific purposes. None of these species is native to Chile.

For the majority of species which have not been specifically identified as invasive, a key tool for prevention is a risk analysis and screening system for evaluating first-time intentional introduction of non-native species, before entry is allowed, and realistically applying similar principles or other management options for species currently in trade. Additionally, identifying high-risk invasive species pathways and developing ways to reduce the movement of invasive species through those pathways is critical. Examples of such techniques include standards for transportation practices (*e.g.*, ballast water discharge, treatment of wood packaging) or inspection at ports of entry.

The Department of Agriculture Animal and Plant Health Inspection Service (APHIS) has the authority to regulate importation to prevent the introduction of animal and plant pests and diseases, including those that constitute invasive species, under statutes such as the Plant Quarantine Act, Federal Plant Pest Act, and Federal Noxious Weed Act. APHIS maintains and applies risk assessment procedures and entry regulations and procedures to safeguard American agriculture's health. APHIS also cooperates with foreign governments on pest control programs abroad. The U.S.-Chile FTA makes no changes to these programs, procedures, or standards except that it provides for enhanced cooperation between the two countries, as discussed in Section IV of this review on sanitary and phytosanitary (SPS) measures.

Concerning the risk of marine introductions through discharge of ballast water from shipping vessels, the U.S. Coast Guard currently has voluntary guidelines (mandatory in the Great Lakes) in place for ballast water management that apply to international shipping passing through U.S. waters. The States of California and Washington have made the guidelines mandatory for any ship entering their ports, and similar legislation is likely to be passed by the State of Oregon. State mandatory ballast water management requirements on the west coast should reduce the risk of introductions of aquatic species. Currently, the only approved method of ballast water management is mid-ocean exchange. It is based on the assumption that there are significant differences in environmental tolerances between coastal and mid-ocean species so that the risks of establishment are reduced. Additional action on the issue of ballast water management is likely. The national voluntary guidelines are likely to be made mandatory when the Nonindigenous Aquatic Nuisance Prevention and Control Act is reauthorized next year. The International Maritime Organization also is considering setting international standards for ballast water management.

Conclusion

The reduction of tariffs on certain products associated with pathways for the movement of invasives could encourage increases in the volume of trade in those products. However, existing regulations that operate

to prevent entry of invasives would not be changed by the FTA and would continue to apply in both countries. As discussed in Section IV of this review concerning SPS measures, the maintenance of stringent SPS requirements in the United States reduces the likelihood that any increase in Chilean imports that results from the FTA would have a significant impact on animal or plant health within the United States, including with respect to invasive species.

METHYL BROMIDE

The stratospheric ozone layer protects the earth by reducing the amount of solar UVB radiation (ultraviolet radiation with wavelengths from 280-320 nanometers) that reaches the earth's surface. This protection is critical as solar UVB radiation causes nonmelanoma skin cancer, plays a major role in malignant melanoma development, has been linked to cataracts, and damages the early developmental stages of fish, shrimp, crabs, amphibians, and other animals. Solar UVB radiation is also suspected of having a number of deleterious impacts on plant physiological and developmental processes, phytoplankton production, and biogeochemical processes, and accelerates the decomposition of a number of economically important materials (e.g., synthetic polymers).

The adverse effects of solar UVB radiation that occur at any particular place and time are not a function of local or national emissions of ozone depleting substances, but rather reflect the cumulative effect of several decades of damage caused by total worldwide emissions of such substances, including methyl bromide. Methyl bromide is used as a soil fumigant and as an insecticide and fungicide on grains, fruits, nuts, wood products and flowers, as well as in storage facilities or transport containers prior to shipping, and in agricultural quarantine facilities. Released to the atmosphere, methyl bromide depletes stratospheric ozone, and is responsible for four percent of the total stratospheric ozone depletion over the past 20 years.

Economic Data

Current U.S. consumption of methyl bromide dwarfs Chilean consumption. In 1996, the United States used about 21,000 metric tonnes of methyl bromide, compared to several hundred metric tonnes used that same year in Chile. However, U.S. consumption in 2005 will probably be only two to three times Chile's due to the differences in the timing of the phase out of methyl bromide production by the United States and Chile under the Montreal Protocol, a multilateral environmental agreement (MEA) to reduce stratospheric ozone depletion. Bilateral trade in agricultural commodities requiring pretreatment and quarantine use of methyl bromide is not expected to increase significantly under the Chile FTA, but such an increase could increase total U.S.-Chilean methyl bromide use for preshipment and quarantine purposes over what the level would be if the FTA were not in place.

As of 1994, 70 percent of Chilean methyl bromide use was for soil fumigation, 22 percent was for fruit fumigation, and the remainder was used in the forestry sector and in warehouse fumigation. Total reported Chilean methyl bromide use fluctuates from year to year. The 1998 figure reported by National Commission for the Environment Chile is 536.9 metric tonnes (against 291.6 in 1997 and 393.6 in 1996).

Transboundary Issues

Over 160 countries are Parties to the Montreal Protocol. In 1992, the Protocol was amended to include a freeze on production of methyl bromide. In 1995, a phaseout schedule was added. That schedule was adjusted in 1997 to accelerate the phaseout of methyl bromide, requiring developed nations to eliminate production and import by 2005, and developing nations by 2015. However, the Parties to the Montreal

Protocol agreed that limited production and import of methyl bromide may be permitted after the phase-out date for uses determined by the Parties to be "critical," including quarantine and preshipment exemptions.

The U.S. Clean Air Act was amended through Section 764 of the 1999 Omnibus Consolidated and Emergency Supplemental Appropriations Act to allow the U.S. government to exempt the production and importation of methyl bromide for critical uses, to the extent such production and import has been approved by the Parties to the Montreal Protocol. U.S. quarantine regulations require, either through regulation or in practice, the following Chilean products be fumigated with methyl bromide prior to entry into the United States: grapes, chestnuts, citrus fruits, peaches including nectarines, plums, apricots, and kiwis.

At least some methyl bromide used in quarantine for Chilean products actually occurs in the United States prior to customs clearance. Methyl bromide use for preshipment and quarantine purposes plays a key role in controlling the movement of agricultural pests and other invasive species.

Conclusion

Stratospheric ozone depletion is a cumulative problem caused by many nations over many years. Depending on the atmospheric lifetime of a chemical, even relatively large emission changes in the short term can have limited near-term effect on the fraction of solar UVB radiation reaching the earth's surface. However, since the FTA is unlikely to spur significant increases in exports of agricultural commodities requiring preshipment and quarantine treatment with methyl bromide, the FTA is unlikely to have a significant environmental impact on stratospheric ozone depletion.

MINING AND METALS PROCESSING

The metals industry engages in the extraction of mineral and energy materials, and in the case of metallic ores, their conversion into refined metal. Metals are then mechanically worked into wrought products, such as sheet, plate, strip, or tube. There are numerous environmental challenges associated with the extraction, production, use, reuse, and recycling of metals, as mining processes can produce profound impacts on the environment if necessary measures are not implemented.

The economic viability of a mine or metals processing plant, its impact on environmental quality, remediation at the closure of a mine, and the social and economic well being of the local community during the operation and after closure of a facility, have been long-standing issues for the mining and metals industry. As a result, the industries in both Chile and the United States are making an effort to adopt best practices to minimize environmental degradation, even in the absence of specific environmental regulations. However, it is acknowledged that "best practices" must necessarily be adapted to local geologic conditions (since nature dictates the location of a mineral deposit), and take into consideration differences in local social and economic development.

Presently, the United States and Chile are engaged in several intergovernmental fora (described below) to advance the objectives of sustainable development. Both countries recognize that there are several key challenges and issues which must be addressed in order for all stakeholders to realize the benefits of a metals sector that promotes sustainable development. Both governments continue to enhance efforts in five areas: stewardship, community engagement, recycling, research and development, and communication.

With regard to stewardship, the United States and Chile have agreed to promote and demonstrate responsible process management throughout the life cycle of metals (from exploration through recycling or, if necessary, final disposal). For example, the Parties have a goal to promote the value of recycling to their users and consumers, and to work to improve recycling rates. The United States and Chile recognize that technology can play an integral role in minimizing environmental degradation, as well as in remediating past offenses. Therefore, the United States and Chile will develop, share, and communicate credible scientific research and data. Finally, both Parties have agreed, through multilateral fora, that communication, especially consultation with local communities, is essential. They have pledged to create an open and transparent mechanism to communicate information on metals and the environment to the public.

Economic Data

The previously mentioned environmental challenges were among the potential environmental impacts in the United States which were considered in reviewing the proposed U.S.-Chile FTA for possible environmental effects. Potential effects could result from outcomes such as increased production in the United States due to an increase in exports, the increased processing of imported Chilean ores and concentrates, or from mine closures in the United States as a consequence of competition from Chilean imports.

The United States is among the world's largest producers of mined products, such as coal, copper, gold, molybdenum, lead, and phosphate, as well as a major consumer of the same products. Chile is also the world's leading producer of several, globally traded, mined commodities, including copper, molybdenum, lithium, and iodine. However, the two countries differ in that Chile is a major exporter of these materials, whereas the United States is import-dependent for much of its metal needs.

It is difficult to demonstrate a direct link between future increases in metals and materials imports from Chile as a result of FTA tariff eliminations and those which would occur under existing market conditions. This is because, in order to meet steadily rising domestic demand, U.S. imports of metals and mined products will continue to increase based on existing trends, with or without the proposed FTA. Additional imports also will be necessary because exploration and new mine development in the United States continues to decline and existing U.S. mines are depleting their ore bodies. Therefore, it may be assumed that, even without an elimination of the U.S. tariffs due to the FTA, U.S. imports of metals from all sources, including Chile, will increase.

Even without a FTA, increasing access to the U.S. market for Chilean products has been easy, as the United States maintains some of the world's lowest tariff rates for minerals and metals. For example, imports of copper ore and concentrate are virtually duty free (1.7 cents/kg on the lead content), the duty on refined copper cathode imports is one percent, and the duties for all other wrought copper products range between one and three percent.

In fact, copper is an example of the general trend of increasing imports from Chile. From 1996 to 2000, U.S. production of primary refined copper fell 21 percent, from 2.01 million metric tonnes (mt) to 1.59 million mt. In addition, U.S. mine production of recoverable copper fell 23.4 percent. Concurrently, imports of primary refined copper increased 71 percent, from 0.62 million mt to 1.06 million mt. Similarly, U.S. imports of ores and concentrates have approximately doubled from 1996 to 1999 (last year of available data) to 0.14 million mt, increasing their share of consumption from about four percent to nine percent. Imports from Chile have been a part of this trend. From 1996 to 1999, imports from Chile of primary refined copper have increased from 0.12 million mt to 0.26 million mt, increasing their overall share of total imports from 19 percent to 24 percent. U.S. imports of Chilean ore and concentrate increased from 0.06 million mt to 0.11 mt, and maintained a steady share of about 80 percent of overall imports. Such trends are expected to continue, with or without the proposed FTA.

As these figures indicate, U.S. production is declining. In general, this is because U.S. smelters and the mines that supply them are high-cost producers, in part because of the quality of the ore. Furthermore, these smelters are not expected to reopen. While imports of concentrate from Chile have increased to supplement domestic supplies due to the closure of high-cost mine production in the United States, the total amount of Chilean concentrates processed in the United States does not compensate fully for the lost production in the United States, and is insignificant compared to the total amount of concentrates processed, roughly seven percent of the total. Furthermore, as noted above, imports of concentrate from Chile already are virtually duty free, just 1.7 cents per kilogram of contained lead (no duty on the copper content).

For copper, Chile's largest metal export, there is a single, global price which is determined internationally through a terminal exchange. Producers in the United States make production decisions based on this global price rather than on competition from any single participant in the marketplace. In fact, as U.S. mining companies increasingly invest overseas, it is expected that production from such facilities could be directed to the U.S. market. Or, since metals are typically fungible, U.S.-owned overseas production could serve third party markets, which would permit metal from other sources to flow into the U.S. market. For instance, it is believed that much of the increase in U.S. imports of Chilean copper ores and concentrates may be attributed to a diversion of Chilean exports from the Asian market to the U.S. market by a U.S. company operating in Chile. That is, the increase in U.S. imports could be viewed as a change in the flow of inputs to production within a single company. This represents a principal reason that the trend in imports from Chile is expected to continue, or even increase, with or without a FTA.

A review of the salient overall U.S. trade statistics in dollar terms will help to illustrate this point further. In 2000, the total value of U.S. mine production of metals and coal was $29.5 billion (U.S. Geological Survey). This figure excludes industrial minerals, the majority of which are high-volume, low-value products which are generally not traded internationally and are consumed within a short radius of the minesite. The total value of U.S. exports of ores and concentrates was $1.1 billion; bituminous coal was $2 billion. Together these exports represented about 10.5 percent of production. However, exports to Chile represented less than 0.1 percent of total exports. In addition, the total value of U.S. shipments of wrought and unwrought nonferrous metal and iron and steel products was approximately $158 billion in 1999, with exports accounting for about $17.5 billion. Again, exports to Chile accounted for about 0.1 percent of the total.

Bilateral Issues

Liberalized investment flows under the free trade agreement could result in an increase in Chilean primary copper processing. Since Chile passed the Foreign Investment Statute Decree Law (DL) 600 in 1974, through 1998 there has been a total of $25 billion in foreign direct investment in the Chilean mining sector (including $5 billion in 1997 and $1.6 billion in 1998). As an example of the impact of these investments, from 1996 to 2000, Chilean copper mine production has increased from 3.1 milliontons to 4.6 million tons, almost a 50 percent increase. There are now numerous firms from the United States, Canada, and other nations operating in Chile. However, although there has been significant investment in mining operations in Chile during the past five years, there has not been a corresponding increase in Chilean smelting capacity.

If there are any potential environmental impacts from such increases, it would be difficult to determine whether they would be a direct result of a free trade agreement. As previously mentioned, investment changes from a free trade agreement are difficult to distinguish from increases in investment that are the result of other factors, including the high quality and quantity of Chilean copper deposits that confer a comparative advantage to Chile in the global marketplace.

Concurrent with the increase in foreign investment in the 1990s, the government of Chile passed DL 185, which is intended to reduce fixed-source air pollutants. DL185 divides Chile into two zones, zone one

representing the mining district of Chile. The decree stipulates that zone one must meet emission standards published by the U.S. Environmental Protection Agency. As a result, the Chilean state copper company, CODELCO, invested several hundred million dollars in environmental control equipment, with the expectation that emissions of sulfur and arsenic will be reduced by 95 percent and 97 percent, respectively. Similarly, the foreign companies operating in Chile are implementing their best practices. DL185 is still in effect, but recently was updated per Supreme Decree 59.

The type of copper production in which there has been recent investments in Chile has had some positive impacts on the Chilean environment. Not all of the increase in Chilean production has been through the processing of concentrates through smelters. From 1996 to 2000, Chilean production of refined copper via solvent-extraction electrowinning (SX-EW) has doubled, and represents about 50 percent of total refined copper production in Chile. The increase in SX-EW production has been made possible, in large part, by the increase in the amount of sulfur dioxide that is being recovered from existing copper smelters operating in Chile (The sulfur dioxide is converted into sulfuric acid which is then used as the solvent in the SX-EW process, as well as the acidic electrolyte in the electrowinning component of the process. The sulfuric acid from both components of the process is reused within the process. SX-EW has very little environmental impact because its liquid streams are easily contained. In addition, there is no effluent, since the acid is reused or neutralized using limestone and deposited as gypsum–a solid which also is naturally occurring.)

Primary copper smelters in the United States are sources of air pollutant emissions, including hazardous air pollutants (HAPs) such as lead and arsenic compounds. However, an increase in U.S. emissions is not expected as a result of the free trade agreement since the smelting industry in the United States is contracting, even with an increase in concentrate imports from Chile. Nor is a significant increase in long range transport of air pollutant emissions from copper smelters considered a likely outcome of the free trade agreement. Air pollutant emissions from copper smelters are addressed by existing U.S. environmental regulations and are subject to new proposed regulations. In 1998, the Environmental Protection Agency (EPA) issued a proposed regulation that would reduce arsenic and lead compounds and other metals from copper smelters. That rule found that on an industry-wide basis, the composition of the HAP emissions from primary copper smelters is approximately 50 percent lead compounds, 25 percent arsenic compounds, and lesser amounts of other metals. Mercury is not a pollutant of concern for U.S. primary copper smelting since the industry represents less than one percent of total U.S. mercury emissions.

Cooperative Efforts

Mining is an integral part of the history of the economic development of both Chile and the United States, and, for Chile, it still accounts for a significant portion of overall economic production. Unfortunately, the negative environmental effects of unregulated mining are also a matter of historical concern. As a result, Chile and the United States work cooperatively in many intergovernmental fora, including the Mines Ministries of the Americas (CAMMA), the Nonferrous Consultative Forum on Sustainable Development, and the APEC Group of Experts on Mineral and Energy Exploration and Development (GEMEED). A common focus and objective of these groups is to enhance the contribution that metals make to sustainable

development.

The Mines Ministers of the Americas have described the objective of CAMMA, whose membership includes over 20 countries from the Americas, as "to establish a common approach to policies on sustainable development." Members are currently drafting a communiqué from CAMMA outlining the role of mining in sustainable development as a tool for stakeholders. Chile hosted a meeting of CAMMA in Santiago in June of 2001 which included a special workshop focusing on the dissemination of the best practices for mine closures.

Likewise, the major objective of GEMEED is "to enhance the contribution of mineral and energy resources to sustainable development, through the promotion of environmentally and socially acceptable development practices." The Chilean Ministry of Mines has been serving as the Chair and Secretariat of the Group since its inception in 1995. The United States has cooperated with Chile, as the Chair of the Group, to host a meeting of the Group in 2000, and is presently working to host a meeting and workshop on local community engagement in 2002. The GEMEED has a separate sub-group on environmental cooperation, which has convened several Environmental Cooperation Workshops. These Workshops are the principal avenues for members to agree on the issues confronting the mining industry and how to address them. In the past, the workshops have focused on issues such as reviewing best practices for addressing acid mine drainage.

Conclusion

Metal production in the United States has been decreasing and U.S. import reliance increasing as a result of many factors, including that the United States is not a significant exporter of primary metal. These are trends which are expected to continue. Therefore, it is unlikely that the elimination of already low U.S. tariffs on metal products from Chile will have much impact on long-term mining or metal producing capacity and utilization rates in the United States. Since neither U.S. mine production nor primary metal production is expected to increase as a result of the FTA, the agreement is not expected to have any significant effect on the environment in the United States.

PESTICIDES AND TOXIC SUBSTANCES

Pesticides

By their very nature, pesticides pose risks to humans, animals, or the environment because they are designed to kill or adversely affect living organisms. However, pesticides are used in agriculture, parks, and in almost every home, business, hospital, and school in America because of their ability to kill potential disease-causing organisms and control insects, weeds, and other pests. Though often misunderstood to refer only to insecticides, the term pesticide also applies to herbicides, fungicides, and various other substances used to control pests. Under United States law, a pesticide is also any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

The U.S. government regulates the use of pesticides under the authority of two federal statutes, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug and Cosmetic Act (FFDCA). Under FIFRA, pesticides intended for use in the United States must be registered (licensed) before they may be sold or distributed in commerce. The Environmental Protection Agency will only register a pesticide if scientific data provided by the registrant show that, when used according to label directions, it will not cause unreasonable adverse effects on human health – including cancer, reproductive effects, neurological effects, and acute and chronic toxic effects – or on the environment. The U.S. government also gathers information, as part of the registration process, to evaluate a pesticide's potential effects to ground and surface waters, wildlife, and non-target plants. This data is used to determine if the pesticide can be used safely and without unreasonable adverse effects, specifically on the environment. A pesticide registration may be suspended or canceled if information shows that continued use would pose unreasonable risks.

Pesticide tolerances are enforced by the U.S. Food and Drug Administration, which monitors food and animal feed for the presence of pesticide residues. The U.S. Department of Agriculture is responsible for monitoring meat, dairy, and poultry products for pesticide residues. If residues higher than established tolerances or residues that are not covered by a tolerance or exemption are detected, shipments of food or animal feed can be seized and destroyed and violators penalized. Government inspectors monitor food in interstate commerce to ensure that these limits are not exceeded. Government standards are also set to protect workers from exposure to pesticides on the job. The American Crop Protection Association (ACPA), the national trade association for pesticide manufacturers, estimates that each pesticide undergoes as many as 120 government-required tests, many specifically designed to ensure protections for health, safety and environment, before the product is submitted for U.S. government review, registration, and label approval.

Economic Data

The United States exported a wide variety of pesticide products to Chile in 2000 for a total value of $12,257,000. This figure is nearly a six percent decrease from 1999 figures. International Trade Commission data indicate that Chilean pesticide manufacturers exported very few pesticide products

to the United States in 2000, for a total value of $831,000. These products included nonaromatic thiocarbamates, and dithiocarbamates and fungicides.

Transboundary Issues

Some pesticides that are manufactured in the United States are not registered for domestic use with the Environmental Protection Agency but can be exported to other countries, because that country accepts the pesticide despite its lack of U.S. registration. Pesticides may lack U.S. registration for reasons unrelated to human health or environmental concerns, or because they control pests that are not a problem in the United States or are used on crops that are not grown in the United States. However, U.S. law requires that all U.S. exported pesticides be labeled in the language of the countries to which they are exported. Labels on unregistered pesticide products must state that the product is not registered for use in the United States. Manufacturers also comply with internationally accepted practices governing trade in chemicals that have been banned or severely restricted based on health or environmental concerns (the "prior informed consent" or PIC system, as embodied in the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, adopted in September 1998).

Persistent Organic Pollutants (POPs)

Persistent Organic Pollutants (POPs) are chemical substances that persist in the environment, bioaccumulate through the food chain, and pose a risk of causing adverse effects to human health and the environment. With the evidence of long range transport of these substances to regions where they have never been used or produced and the consequent threats they pose to the global environment, the international community has called for urgent global actions to reduce and eliminate releases of these chemicals. On May 23, 2001, the United States signed an international treaty that will require participating countries to reduce and/or eliminate the production and use of 12 internationally produced POPs used as pesticides or industrial chemicals. The Agreement initially targets 12 POPs, which include: aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene, mirex, toxaphene, polychlorinated biphenyls (PCBs), dioxins and furans. The Convention also includes provisions restricting trade of POPs for which uses or production continue to exist and bans all exports of POPs, except for environmentally sound management. It also imposes strong commitments to prevent and control the release of certain POPs unintentionally produced as byproducts. Both the United States and Chile signed the POPs Treaty in Stockholm in May of 2001 and the Bush Administration has announced its intent to transmit the Convention for advice and consent of the Senate for ratification. By becoming Parties to this Convention, the United States and Chile signify their long-term commitment to protecting the environment and public health from the potential adverse effects of POPs.

Conclusion

While pesticides can have numerous serious health effects, the potential risk associated with the consumption of pesticide residues on agricultural exports from Chile is likely to be minimal, since all products must meet the pesticide residue tolerances set by the U.S. government. These tolerances apply to both imported and domestically produced foods, would not change under a new FTA between the United States and Chile. In addition, the international commitments assumed by both the United States and Chile should ensure that any trade between the Parties in POPs would be consistent with the global agreement.

WILDLIFE AND ENDANGERED SPECIES

Both the United States and Chile contain a wide range of habitats which sustain a diversity of species and communities of wildlife. Endangered species and wildlife, including migratory species, may be subject to effects from changes in trade between the two countries, such as an increase in harvesting of wildlife for export, or the loss or degradation of habitat due to economic activities stimulated by trade.

A number of migratory species, particularly birds, travel between the United States and Chile. Any effects on these species would be both domestic – because the species spend part of their lives within U.S. territory where they could be affected by trade-related activity – and transboundary – because trade-related activity in one country may affect the status of a species that spends part of its life in the other. Migratory species are also a matter of global concern, as evidenced by the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat, to which the United States, Chile, and 127 other countries are Parties. Many species of birds found in the United States migrate to Chile. The protection of these birds is mandated in the United States under the Migratory Bird Treaty Act.

Multilateral recognition of the importance of species conservation and the need for international cooperation has led to a multilateral agreement through the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), to which both the United States and Chile are Parties. In addition, Congress has mandated the protection, through trade restrictions and other measures, of species identified as threatened or endangered under the Endangered Species Act of 1973 (ESA), including species with ranges outside the United States. Several species found in Chile are on the ESA list.

Economic Data

The overall volume of international trade of CITES-listed species between Chile and the United States has not been substantial in recent years. According to 1999 U.S. CITES annual report data, U.S. exports to Chile consisted primarily of scientific specimens and a few alligator products. Re-exports consisted primarily of sturgeon caviar, a few live reptiles, amphibians and invertebrates. U.S. imports were dominated by so-called "rainsticks," the skeleton of certain dead cactus species imported and sold as a novelty item. Virtually no CITES-listed animals were imported from Chile. Legal exportation of native mammals from Chile has not been a cause for concern in recent years, because only captive-bred individuals are being exported.[23]

[23] Iriarte, J.A., P. Feinsinger, and F.M. Jaksic. 1997. Trends in wildlife use and trade in Chile. Biological Conservation 81:9-20.

International trade of non-CITES species between Chile and the United States has been more significant. Iriarte et al. (1997) analyzed records for legal exportation of all wildlife (CITES and non-CITES species) from Chile for the period 1985-1993, and found exports of some non-CITES taxa to be significant. Over the nine-year period, Chile exported over 83.5 million moth larvae (*Chilecomadia moorei* and *C. valdiviana*), used as bait, primarily to North America and Europe. These larvae are well-known pests that cause heavy damage in orchards.[24] Spider exports from Chile rose dramatically from 1,819 individuals in 1985 to a high of 81,184 individuals in1992 (Iriarte et al. 1997). Recent trade data suggest that that portion of spider exports going to the United States may have been substantial. Data on U.S. imports of spiders (non-CITES species) from Chile for 1998-1999 show that the United States imported 38,220 spiders in 1998, and 33,000 spiders in 1999. Trends in Chilean exports of vertebrates for 1985-1993 reflected the establishment of new hunting regulations in 1993, which imposed a total ban on exports of native species.[25] Legal exports of both native reptiles and amphibians rose to very high levels in 1992, but came to an abrupt end on March 9, 1993 when the regulations took effect.

Wildlife Protection Laws and Trade Effects

Both Chile and the United States have legislation to protect endangered species. In the United States, the ESA has two classes of protection, endangered and threatened, for wildlife and plants. The ESA protects both domestic U.S. species and foreign species that are on the Federal List of Endangered and Threatened Wildlife and Plants. Several native Chilean species are listed as endangered under the U.S. ESA, including the alerce (*Fitzroya cupressoides*), the Andean mountain cat (*Felis jacobita*), the huemul deer (*Hippocamelus antisensis* and *H. bisulcus*), otters (*Lontra felina* and *L. provocax*), vicuña (*Vicugna vicugna*), and Andean condor (*Vultur gryphus*). However, ESA protections for species found outside U.S. jurisdiction are realtively limited, including prohibitions on sale or commercial movement in interstate commerce within the United States, and import into or exports from the United States.

In Chile, the Hunting Law of 1993 protects most of Chile's vertebrate fauna from hunting. The Chilean Red Data Book categorizes over 250 taxa into one of five IUCN categories of threat: endangered, vulnerable, rare, indeterminate threat, or inadequately known (Iriarte et al. 1997). Despite protection, many Chilean vertebrate species remain in danger of extinction. Huemul populations, for example, are reported to have declined dramatically during the last 50 years, becoming increasingly fragmented within protected areas in Regions VIII and XI (Fauna Austral web site).

[24] Ibid.

[25] Ibid.

Both Chile and the United States are Parties to CITES, a treaty that regulates international trade of wildlife through a system of permits for species listed in one of three appendices to the Convention. The Convention entered into force in both countries in 1975. As of 1997, 115 of Chile's vertebrate species were listed in Appendix I of CITES, which allows for international commercial trade, or Appendix II of CITES, which prohibits such trade.

In the United States, CITES is implemented though the ESA, as amended. The U.S. Fish and Wildlife Service's Division of Management Authority (DMA) has been given CITES Management Authority responsibilities, while the Service's Division of Scientific Authority (DSA) has been given CITES Scientific Authority responsibilities. All CITES permits are issued by DMA; DSA makes the biological findings required by the Convention. Wildlife imports and exports are controlled largely by the Service's Division of Law Enforcement for animals, and the Animal and Plant Health Inspection Service for plants. Wildlife can only be imported and exported through designated ports.

In Chile, there are several laws and decrees pertinent to CITES and international wildlife trade (see Annex III). In Chile, CITES Management Authority responsibilities are divided among three agencies. The Servicio Agricola y Ganadero (SAG) is responsible for terrestrial fauna and non-timber flora, the Servicio Nacional de Pesca (SERNAP) is responsible for marine species, and the Corporacion Nacional Forestal (CONAF) is responsible for forest products. CITES Scientific Authority responsibilities for Chile are also divided among three agencies: the Comisión Nacional de Investgación Cientifica y Tecnológica (CONICYT) for terrestrial fauna and non-timber flora, SNP for marine species, and CONAF for forest products. Wildlife imports and exports are controlled largely by SAG and the Chilean Customs Service.

Chile's implementation of CITES is generally considered to be good, despite the limited resources it has available. Chile issues permits in accordance with CITES requirements, consistently submits the required CITES annual reports, and has not been the subject of any trade suspensions. Enforcement along its long border can be difficult, especially because Chile has heavy truck traffic from neighboring countries which are transporting goods to Chilean ports for export to third countries.

Iriarte et al. (1997) include a table of living specimens and skins confiscated by Chilean authorities for the period 1991-1994. Thirty taxa (including several higher taxa) are included in the table. Many of the specimens on the list were non-native species, confiscated during trans-shipment from other countries, principally Peru, Bolivia, and Argentina. Of native species, the chilla fox (*Pseudalopex griseus*) and nutria (*Myocastor coypus*) were confiscated in highest numbers. Confiscations may not be indicative of the actual level of illegal export of native species, especially from more remote parts of Chile. Iriarte (1994) estimated that 10,000-15,000 skins of foxes and other carnivores were being illegally shipped from the Magallanes region of extreme southern Chile to the Rio Gallegos region of Argentina.

In coastal Chilean waters between 48 and 56 degrees South latitude, dolphins and sea lions have been killed to provide bait for the king crab fishery. Cardenas estimated that between 1976 and

1979, approximately 8,900 dolphins, primarily of two species (*Cephalorhynchus commersoni* and *Lagenorhynchus australis*) were killed for use as king crab bait.[26]

Given the strong legal protections in place in each country, it is unlikely that a FTA would cause a significant increase in illegal trade of wildlife or endangered species. Both Chile and the United States have good records on compliance with international laws governing wildlife trade and the two countries have also worked cooperatively on many of these issues over the years. It is also unlikely, given the already low tariffs on most products, that legal wildlife trade would increase significantly. If a tariff were significantly lowered on a product listed under Appendix II of CITES, there could be trade effects on the product in question. However, CITES regulations would require the exporting country to ensure that export was not detrimental to the survival of the species.

An example of a species in which trade could increase if tariffs were reduced is the vicuña. The vicuña (Vicugna vicugna) is a mammal native to South America that produces highly valued wool and is currently listed as endangered in the United States under the ESA. Certain vicuña populations identified as sustainably managed are currently listed in Appendix II of CITES, while others remain in Appendix I. The FWS has proposed to downlist the vicuña in Chile and some other countries from endangered to threatened under the ESA. The proposed downlisting package would allow importation into the United States of legal vicuña fiber and fiber products (primarily luxury garments) from certain vicuña populations listed as threatened under the ESA and in Appendix II of CITES. This rule would allow the sale of vicuña wool to the United States, but only from specific sustainably harvested populations. When finalized, the ESA downlisting and special rule would align U.S. policy and the ESA listing more closely with CITES. If there is a reduction in tariffs as a result of a FTA, the market for sustainably managed Chilean vicuña fiber in the United States could expand. With CITES measures remaining in place, expanded exports could increase the incentives in Chile for sustainable management and conservation of vicuña.

Migratory Birds

Migratory birds are legally protected in the United States by the Migratory Bird Treaty Act.[27] As discussed above, both Chile and the United States are Parties to the Ramsar Convention, which protects wetlands, often a prime habitat for migratory birds.

Chile is an important country for wintering shorebirds as well as other migratory species. Large concentrations of shorebirds such as Red Knots, Hudsonian Godwits, Sanderlings, White-rumped Sandpipers, and Whimbrels winter in Chile. Human development of these coastal and estuarine ecosystems could have a significant impact on their populations. Development can interfere with tidal flows and decrease the invertebrate food supply for the birds. These shorebirds are found in the

[26] Ibid.

[27] 16 U.S.C. §§ 703-711.

coastal and estuarine habitats primarily around Tierra del Fuego and Chiloe Island. Heavy concentrations of Sanderlings are found all along the Pacific coast with peak numbers around Valparaiso. Many of the other wintering species are wetland/oceanic birds, however, several are forest and shrub dwellers.

Other migratory species include: Osprey, Peregrine Falcon, Franklin's Gull, Elegant Tern, Black Skimmer, Yellow-billed Cuckoo, Common Nighthawk, Traill's Flycatcher and the Barn Swallow. Peregrines prey on shorebirds and their population could also be affected.

Wildlife Habitat

Trade liberalization, through the expansion of markets, can stimulate economic activity in the form of expanded production in existing sectors or the development of new sectors. Such expanded productive activity can affect wildlife habitat, including habitat for endangered species or migratory birds. Among the major export sectors for Chile, the expansion of farmland may displace forest and other habitats, and may degrade riverine habitat through pesticide runoff. Logging can degrade or destroy forest habitat, and mining can degrade or destroy wildlife habitats through effects such as water pollution. Aquaculture projects in wetland areas could degrade or displace habitat for migratory birds.

To the extent that a FTA lowers tariffs or otherwise reduces barriers in such sectors, it could stimulate economic activity that displaces or degrades habitat, thereby having negative effects on wildlife. However, such effects are not expected to be pronounced for several reasons. U.S. tariffs on products in the fishing, forest, and mining sectors already tend to be low, so the FTA is not expected to significantly alter existing trends in Chilean exports to the United States. Chilean tariffs are also relatively low in the fishing and forest product sectors, and the Chilean market is so small compared to the overall size of the U.S. economy that incremental increases in market access for U.S. exporters are not expected to result in measurable changes in U.S. economic sectors. However, site-specific impacts cannot be entirely ruled out. If a small incremental increase in markets through trade liberalization stimulates the expansion or establishment of even a single facility, impacts could be significant if that facility were situated in a habitat that is sensitive for a rare or endangered species.

Conclusion

Changes in economic activity resulting from the FTA are expected to be limited in both the United States and in Chile in natural resource sectors such as mining and forestry, where economic changes could pose potential threats to wildlife habitats. While facility expansion or production increases in sensitive areas can produce significant effects on plants and wildlife, including endangered species and migratory birds, the overall effects on wildlife are not expected to be significant based on the anticipated change in economic activity from the FTA.

IV: REGULATORY REVIEW

The regulatory review section seeks to identify text in the proposed U.S.-Chile free trade agreement that could potentially affect, positively or negatively, the ability of the United States to enact, maintain, enforce, or strengthen environmental laws, regulations and other obligations at all levels of government, relative to obligations and conditions that would exist in the absence of the proposed free trade agreement (FTA). Small groups of representatives from the TPSC agencies met and analyzed the draft text of each chapter of the U.S.-Chile FTA to discuss possible regulatory or other environmental implications. This section summarizes the basic components of each chapter of the proposed FTA, highlighting those sections found to be environmentally significant.

The TPSC considered information provided in public comments from civil society, industry, and other stakeholders, particularly those expressed in response to the Federal Register Notice announcing the U.S.-Chile FTA negotiations, as well as those expressed regarding the environmental effects of trade agreements more generally. In some cases, a draft text was found to have no identifiable regulatory impact on the United States, but was nevertheless analyzed in some detail if it had the potential to produce non-regulatory environmental effects, or in order to explain how its inclusion in the FTA is intended to address public concerns.

Under the scoping process outlined in the guidelines implementing the Executive Order, an environmental review is designed to provide a targeted analysis of those issues that appear to have some potential environmental significance. Thus, in the normal course, issues that have little potential significance would receive limited treatment, or would be omitted from, a review document. However, because this is the first environmental review of a trade agreement conducted since the implementing guidelines were finalized, the TPSC was of the view that the public would appreciate inclusion of a summary statement describing each chapter of the proposed FTA and the conclusions regarding regulatory effects, even if no regulatory or other effects were identified, to help illustrate the review process methodology.

At the time this draft was published, the United States had not tabled text regarding labor or environmental obligations. Both Parties are carefully considering how these issues can be best addressed in the context of the FTA. Throughout the course of the U.S.-Chile FTA negotiations, the labor and environment negotiating groups have met to discuss opportunities for bilateral cooperation on labor and environment issues, and examined the environment and labor provisions in each other's existing trade agreements with other Parties. Environmental cooperation between the United States and Chile is discussed in Section V of this review.

In addition, the United States had not yet completed tabling its text for some other chapters of the agreement. U.S. negotiators are actively taking into account public concerns as they formulate their negotiating positions for these components of the FTA.

Environmental impacts relating to the expected changes in trade flows from the FTA are addressed in Section III of this review, which includes an analysis of the domestic environmental effects in key trading sectors and transboundary and global issues.

ANTIDUMPING AND COUNTERVAILING DUTIES

Introduction and Chapter Summary: Antidumping and countervailing duty laws deal with unfair foreign trade practices. "Dumping" generally refers to a form of international price discrimination, whereby goods are sold in one export market (such as the United States) at prices lower than the prices at which comparable goods are sold in the home market of the exporter, or in other export markets. The antidumping law provides for the assessment and collection of antidumping duties by the U.S. government after administrative determinations that foreign merchandise is being sold in the U.S. market at less than fair value and that such imports are injuring the U.S. producers of identical or similar goods. The purpose of the countervailing duty law is to offset any unfair competitive advantage that foreign manufacturers or exporters to the United States might enjoy over U.S. producers as a result of certain foreign subsidies. Countervailing duties are imposed upon importation of the goods into the United States after administrative determinations that the imports are benefitting from such subsidies and the subsidized imports are injuring the U.S. industry producing the domestic like product.

At this point, the trade remedies negotiating group has not produced any text. However, the United States has indicated to the Chileans that the United States will not alter current domestic laws or regulations codifying substantive aspects of existing WTO rules in order to conclude a FTA with Chile. Therefore, the United States has suggested that negotiations address shared procedural objectives.

Environmental Regulatory Impacts: Any proposed U.S.-Chile FTA antidumping and countervailing duty provisions would not require a change to U.S. law or regulations and would, at most, involve purely procedural changes (*e.g.*, provide standard questionnaire in Spanish). As a result, there would be no implications for U.S. environmental regulations or statutes. There would also not be any implications with respect to the ability of state, local, and tribal authorities to regulate with respect to environmental matters.

COMPETITION POLICY

Introduction and Chapter Summary: The overarching goal of U.S. antitrust laws is to protect economic freedom and opportunity through the promotion of a free market system. A free market system, like that of the United States, benefits consumers by providing lower prices, better quality, and greater choice. The free market system is intended to protect the competitive process and deter a variety of practices that unreasonably distort trade, such as price-fixing conspiracies, corporate mergers likely to substantially reduce competition and concentrate market power, and predatory acts designed to achieve or maintain monopoly power. These competition laws apply to virtually all industries, and to every level of business, including manufacturing, transportation, distribution, and marketing. The draft chapter emphasizes both Parties' commitment to maintain competition laws that restrict anti-competitive business practices. While the chapter respects each Party's rules with respect to confidentiality, the chapter does provide for the United States and Chile to consult with each other periodically concerning the effectiveness of their enforcement measures.

While the U.S.-Chile negotiations on competition policies have yielded a consolidated draft text, it has not yet been finalized. In principle, both countries share substantial common ground, and continue to make progress.

Environmental Regulatory Impacts: Given the nature of U.S. antitrust practices, and even more specifically, the provisions contained within the draft competition policy chapter of the U.S.-Chile FTA, the likely impact, if any, on the ability to regulate and protect the environment appears minimal.

The draft competition policy chapter does not address the practice of cost-benefit review. Some U.S. regulations, by law, set safety limits without regard to costs (e.g., the National Emission Standards for Hazardous Air Pollutants). The final text will need to be reviewed to ensure that it continues to be free from provisions that would prevent either Party from implementing or enforcing existing regulations, or from enacting future safety regulations.

CUSTOMS ADMINISTRATION

Introduction and Chapter Summary: The draft chapter on Customs Administration is designed to ensure that laws, regulations, and decisions governing customs matters are not applied in a manner that would create unwarranted procedural obstacles to international trade. A transparent process for the publication and notification of information on customs matters is specified. Procedures are outlined by which importers, exporters, and producers of goods may obtain advance rulings from the Parties' customs administrations regarding future importations of goods into each country. Provisions for the review and appeal of determinations relating to customs matters allow for at least one level of administrative review independent of the office responsible for the decision under review, as well as judicial review of the decision taken at the final level of administrative review. The draft chapter encourages cooperation with respect to the enforcement of customs laws, the provision of information concerning significant administrative and commercial rulings, and other relevant customs matters. The confidentiality of business information is protected, and civil, administrative, and criminal penalties for violations of customs laws and regulations are provided. Finally, the draft chapter outlines release and security measures with respect to goods, the targeting methodology for identifying high-risk goods, and procedures with respect to express shipments.

Environmental Regulatory Impacts: The cooperation elements of the draft chapter address concerns that increased trade as a result of a U.S.-Chile FTA may increase the likelihood that goods may cross the border illegally, including goods that are restricted under U.S. environmental laws. Establishing a mechanism for exchanging information helps counteract this phenomenon and assists the United States in its efforts to enforce applicable environmental laws and regulations. The proposed obligations concerning unwarranted procedural obstacles is focused on issues such as excessive paperwork requirements and is therefore unlikely to negatively impact environmental regulatory abilities.

Other Environmental or Public Concerns: The draft chapter contains numerous provisions that could positively impact U.S. environmental commitments. The draft chapter emphasizes broad transparency procedures with respect to the publication and notification of customs matters and the formulation of advance rulings. Moreover, an article on cooperation with respect to law enforcement activities and the provision of information on customs matters provides additional support for capacity building efforts and the tools environment agencies utilize to implement and enforce U.S. domestic and multilateral environmental commitments, such as the prevention of illegal trafficking in hazardous wastes or endangered species. Finally, the cooperation procedures potentially provide additional means for helping to enforce U.S. international environmental commitments, in particular trade in CITES species and the regulation of imports of chlorofluorocarbons and other ozone depleting substances under the Montreal Protocol.

DISPUTE SETTLEMENT

Introduction and Chapter Summary: The provisions of the Dispute Settlement chapter will govern the resolution of disputes between the Parties concerning the interpretation of the agreement. These obligations may also be invoked where one Party believes that the other Party has taken an action that violates its commitments under the agreement, or an action that reduces or eliminates benefits that the complaining Party reasonably expected would accrue to it under the terms of the agreement.

The initial proposed provisions in this section provide that the Parties shall try to agree on the interpretation and application of the terms of the agreement, and that they will seek to cooperate and consult on the resolution of any matter that might affect the operation of the agreement. To address situations where the Parties may be involved in disputes that are subject to the provisions of both this agreement and similar provisions in other agreements, including the GATT, the Parties have decided to include a clause that would govern the extent to which a claim subject to the dispute resolution mechanism in this agreement may also be subject to a similar mechanism under another agreement. Conversely, the draft text also addresses whether a claim brought under another mechanism may also be raised in the dispute settlement mechanism under this agreement.

The draft U.S.-Chile FTA establishes a three-stage process for resolving disputes. First, the Parties agree to try to resolve their dispute through consultations. Consultations are initiated by a request from one Party. The United States has proposed that during the consultations, one Party may request that the other Party make available government employees who have expertise in the disputed matter. In addition, Parties are required to share with the other Party sufficient information to enable the other Party to fully examine the implications of a measure on the operation and application of the agreement. The proposed U.S. text would also require Parties to treat confidential information in the same manner as it is being treated by the Party providing it. The United States has also proposed provisions to ensure transparency in the dispute settlement process, as described more fully below.

Second, in the event that the Parties are not successful in resolving the dispute through consultations, the draft text provides that the Parties may call for a meeting of the Free Trade Commission and ask it to resolve the dispute. The Commission may rely upon any technical advisors or create any working groups that it deems necessary. The Commission is established in the Institutional Issues chapter of the FTA, and is further explained in later is this section of the review.

Third, where a matter cannot be resolved by the Commission, a Party may request that the matter be referred to an arbitral panel. The Parties have not yet agreed how the members of these panels will be selected. In some other agreements, Parties agree to compile a roster of individuals from which the members of dispute settlement panels will be chosen by mutual consent. Under some agreements, only citizens of the Parties may be selected for the roster. The Parties are also considering how to define the qualifications of the panelists.

To help guide the proceedings, the Parties have agreed to adopt rules of procedure that will govern the dispute resolution process unless, in a particular matter, the Parties determine otherwise. The

draft chapter permits the panel to seek technical advice from any person or body that it believes is appropriate, as well as to convene a group of experts for the purpose of providing a report on any factual issues concerning environmental, health, safety, or other technical matters raised by a Party. If the panel seeks such technical advice, it is to take it into account in preparing its report on the matter.

The Parties will also be given an opportunity to present information to the panel through briefs and oral presentations at a hearing. The United States is also seeking to include provisions that give the public access to all of the materials presented to a panel by a Party (except for information that is deemed confidential) and that would permit the filing of amicus briefs by interested persons. Once the panel has finished taking evidence and hearing legal arguments, it will take the information provided, deliberate, and prepare an initial report. The initial report is to be based on the information and arguments that have been presented to the panel. Under the U.S. proposal, the report could also contain recommendations on how to resolve the dispute, if such recommendations are requested by the Parties. The initial report is distributed to the Parties for their comment. These comments are taken into consideration by the Panel in preparing its final report. If there are conflicting views among the panelists, those views may be reflected in separate reports. The final report shall be released to the public, subject to the protection of any confidential information.

Environmental Regulatory Impacts: The dispute settlement mechanism may be used to challenge the environmental regulations of a Party, based on allegations that the regulation discriminates against imports from the other Party. One of the pending questions in the text is whether those portions of the dispute settlement mechanism which permit a Party to refer a dispute to an arbitral panel may be used to challenge proposed measures (*e.g.*, draft regulations) before they are finalized. The current U.S. proposal is that proposed measures should be subject to consultations between the Parties but not subject to panel review. Under U.S. law, foreign governments may submit comments on proposed regulations to the appropriate government agency. Potential regulatory effects of these provisions will need to be considered further as the draft text develops. Other pending issues include a Party's ability to raise an issue under more than one dispute resolution mechanism and the relationship between obligations under this FTA and obligations under MEAs.

Other Environmental or Public Concerns: One feature of the draft chapter is that it provides a means to discuss concerns with proposed measures, be they environmental or otherwise, before they become actual measures, potentially avoiding costly and lengthy disputes.

During the conciliation process the Commission is permitted to draw upon available expertise about the subject matter of a dispute in order to try to resolve it. Therefore, where the subject matter of the dispute is an environmental regulation, the Commission will be able to obtain and use information about a challenged regulation in an effort to bring about a resolution of the dispute that is consistent with the objectives of the agreement without undermining a Party's legitimate efforts to protect its environment. Likewise, the provisions that permit panels to seek technical advice, or to convene a group of experts, give the panel access to information that may be necessary to make fully informed decisions.

The proposed provisions concerning the information that may be presented to and collected by the Panel, including the U.S. proposals regarding the submission of amicus briefs, encourage the presentation of all relevant information to the panel for its consideration. The proposed provisions in this section also encourage the panel to take into account all of the information and arguments provided to it. Provisions concerning public access to panel proceedings and the materials filed with panels would help the public to understand how issues have been resolved. If the matter is complex and the panel's decision divided, provisions proposed by the United States that would allow panels to provide separate reports would also promote public understanding of the process.

ELECTRONIC COMMERCE

Introduction and Chapter Summary: The draft chapter on Electronic Commerce seeks to guarantee a liberalized environment for the trade of digital products, which include software, text, video, images, and sound recordings. To this end, specific provisions focus on commitments related to the prohibition of customs duties on digital products delivered electronically, customs valuation of digital products delivered on physical media, services delivered electronically, transparency in laws and regulations governing the trade of digital products, and other areas where both countries can cooperate to ensure the future free flow of electronic commerce.

In the FTA negotiations, the e-commerce provisions would apply to the exchange of digital products and services by electronic means and to the customs valuation of carrier media bearing digital products. The provisions do not include related support services, apparatus, and infrastructure (e.g., antennas, satellites, cell phones, and cell towers). These support systems and the appropriate disciplines are addressed elsewhere in the FTA and are therefore discussed, as appropriate, elsewhere in this review. Thus the terms "treatment," "pertain," and similar terms are understood in terms of how the relevant good itself is treated.

Environmental Regulatory Impacts: The proposed e-commerce provisions, which are consistent with current U.S. policies, are not expected to affect the ability of the United States to regulate in order to achieve environmental objectives.

Other Environmental or Public Concerns: Wider use of e-commerce may reduce paper consumption and resources used to transport goods that are currently delivered through non-electronic means. To the extent that electronically transmitted goods are cheaper, delivered more quickly, and more easily accessed by their physical counterparts, increased e-commerce between the United States and Chile may augment the flow of ideas and enhance the transfer of information to a wider audience. Thus, as electronic commerce grows there may be a greater reliance on electronic means for doing business (i.e., video conferencing, which was one of the channels used to conduct the U.S.-Chile FTA negotiations). This may reduce reliance on traditional means of travel, further reducing consumption of resources.

FINANCIAL SERVICES

Introduction and Chapter Summary: The financial services chapter of the U.S.-Chile FTA will cover foreign investment and cross border trade in banking, securities, and insurance. It is important to note that the scope of this chapter is limited only to those measures "relating to" financial enterprises of the other party and cross-border provision of financial services. Other chapters of the agreement do not apply to those measures, except as specifically indicated. The United States is considering obligations similar to those in the financial services provisions of existing agreements such as the North American Free Trade Agreement (NAFTA) and the WTO General Agreement on Trade in Services (GATS). These provisions cover such matters as national treatment, most favored nation treatment, and non-discriminatory quantitative restrictions on foreign investments in financial institutions. The draft provisions would apply to measures at both the federal and sub-federal level. Any inconsistent state level measures in place at the time of this agreement would be "grandfathered."

The draft chapter permits the adoption or maintenance of prudential measures taken for the protection of investors, depositors, policy holders, or persons to whom a fiduciary duty is owed, and to ensure the integrity and stability of the financial system. The draft text also requires each Party to allow financial services suppliers of the other Party to establish operations in its territory, subject only to terms, conditions, and procedures that do not circumvent the obligation to permit establishment. In addition, foreign service suppliers must generally be permitted to establish in the organizational form they choose (subsidiary, branch, agency).

Each Party generally must treat financial institutions of the other Party no less favorably than it treats its own financial institutions. For the states, each state must treat foreign firms no less favorably than in-state firms in like circumstances. Where measures distinguish between financial firms located in different U.S. states, foreign firms must be treated like the U.S. firms located in their state of domicile. In addition, a Party may not treat financial service suppliers from the other Party less favorably than it treats similarly situated financial services suppliers from any other country. Thus, for example, a federal or state measure that treats Chilean companies less favorably than French companies in like circumstances would violate the proposed provisions of the FTA.

Beginning on the date of entry into force of the FTA, any new measures subsequently adopted would accord national treatment to entities of the other Party supplying cross-border financial services. In addition, a Party would agree that persons located in its territory and its nationals, wherever located, could purchase financial services from the other's financial service suppliers. These commitments would be subject to the limitation that the Party would not be required to permit cross-border suppliers to "do business" or "solicit" in its territory, that the Party would be able to define "doing business" and "solicitation", and that the Party would be able to require the registration of cross-border financial service suppliers of the other signatory country and of financial instruments.

The draft text requires a Party to permit a financial firm of the other Party to supply an "innovative financial service" if it is similar to those services that the first Party permits its own like financial institutions to supply. This commitment is qualified by the prudential measures exception, by the

ability to determine the institutional and juridical form through which this new service may be supplied, and by the ability to require authorization for the supply of the service.

The United States anticipates that the final FTA text will contain language that deals with the openness of the regulatory and administrative processes, possibly using the NAFTA Financial Services text as a starting point. The NAFTA requires Parties to (1) publish any general measures concerning matters covered by the agreement, (2) provide for impartial review of administrative actions, (3) advise interested persons of application requirements and the status of their application, and (4) to the extent practicable, maintain a notice and comment process on any proposed measure of general application.

Environmental Regulatory Impacts: The limited scope of this chapter makes the proposed obligations unlikely to impact the maintenance, enforcement, or strengthening of U.S. environmental or health regulations. The draft text on financial services also does not have any implications for U.S. environmental policy instruments or other environmental commitments. While the final text is not completed, the proposed provisions are not likely to impose any new obligations with respect to U.S. state or federal measures related to financial services; any inconsistent state measures would be grandfathered. Investment and services measures that are not related to the provision of financial services (for example, the application of workplace health and safety rules to financial institutions) are governed by the appropriate provisions in other chapters of the proposed U.S.-Chile FTA.

GOVERNMENT PROCUREMENT

Introduction and Chapter Summary: Drawing on other U.S. procurement agreements, the U.S. submission to the draft Government Procurement chapter of the U.S.-Chile FTA ensures non-discrimination, transparency, predictability, and accountability in the government procurement process. If accepted, the proposed commitments will provide appropriate reciprocal, competitive government procurement opportunities to U.S. products in Chile's government procurement market. To this end, the draft chapter contains a number of procedural requirements with respect to tenders, qualification of suppliers, advertisement to bid, bid challenge procedures, and the awarding of contracts. Entities are obligated to award contracts to the fully capable tender that is either the lowest tender or the most advantageous based on the evaluation criteria enumerated in the tender documentation. The use of offsets to improve a Party's balance-of-payments accounts by means of requirements of domestic content, licensing of technology, investment requirements, counter-trade, or similar requirements would be prohibited. The obligations on technical specifications prevent discrimination through the technical characteristics of specified products and services. The U.S. proposed text also requires technical specifications to be in terms of performance rather than design, as appropriate, and, consistent with Federal law and regulations, based on an existing domestic or international standard, except where the use of such a standard would fail to meet the entity's program requirements.

Environmental Regulatory Impacts: The obligations in the draft chapter are consistent with the mandates of U.S. domestic regulatory authorities and do not prejudice the ability of the United States to maintain its environmental regulatory objectives. Specifically, the definition of "technical specification" accommodates labeling requirements and process and production methods, and does not require the use of an international standard, thus permitting agencies to purchase products that meet U.S. environmental objectives where an international standard is lower than or different from the U.S. standard. Moreover, a separate article states that technical specifications shall not create "unnecessary" obstacles to trade. As has been recognized in past agreements, the word "unnecessary" is essential since it ensures that the U.S. government can use technical specifications it considers necessary to meet its environmental or other procurement objectives.

Although the United States has yet to submit general exceptions language for the chapter, the United States has noted that exceptions for this chapter will be necessary, and should be considered in the context of work on general agreement-wide provisions. Exceptions for non-economic reasons are included in other government procurement agreements, including in the Government Procurement chapter of the NAFTA and the WTO Government Procurement Agreement, in particular to protect national security interests; public morals, order or safety; human, animal or plant life or health; and intellectual property. Under current U.S. laws, Federal Acquisition Regulation, and Executive Order 13101 on green procurement policy, Federal agencies are obligated to purchase recycled and energy efficient products and environmentally preferable products and services.

Other Environmental or Public Concerns: The U.S. proposals on ensuring integrity in procurement practices and procedural articles requiring transparency in competing for government contracts

contribute to U.S. environmental objectives. Furthermore, the draft chapter states that tender documentation should include all criteria to be considered in the awarding of the contract, including factors other than price, which includes environmental and other non-cost criteria. The draft chapter also specifies that the publication of procurement measures may be done by means of electronic or paper media, and additional language encourages the use of electronic media for information dissemination. This paper reduction effort is consistent with Executive Order 13101, and could have environmental benefits.

INSTITUTIONAL PROVISIONS

Introduction and Chapter Summary: These chapters include a number of general provisions, such as the preamble and objectives, which provide the framework within which the substantive provisions in the agreement operate. The language in these articles is hortatory. Therefore, these draft chapters do not create specific obligations on the Parties. However, they do provide the framework within which the other provisions of the agreement are to be read and interpreted.

The draft text also includes provisions to establish various bilateral institutions which will have a role in the implementation of the agreement. One of those institutions is the Free Trade Commission. As in some other FTAs, each of the Parties will have one representative on the Free Trade Commission and that representative will be serving in a designated cabinet-level office in the government of the Party. With respect to the operation of the agreement, the Commission is given very broad powers and responsibilities. Among other things, the Commission is responsible for overseeing the agreement's implementation, working on the resolution of disputes that may arise between the Parties on the interpretation of the provisions in the agreement, supervising the work of any committees or working groups that it may decide to establish to assist in the implementation of the agreement, and considering any other matter that may affect the operation of the agreement. The Commission also has the authority to seek advice from civil society and to take such other action as the Parties may agree.

In addition, the draft text establishes a Secretariat. The Secretariat would be composed of two national sections and would be responsible for facilitating the implementation of the State-to-State dispute resolution mechanism. The Secretariat would perform any other functions assigned it by the Commission.

Furthermore, the draft text contains a number of "final provisions." These provisions cover a variety of ministerial issues including defining Annexes as integral parts of the agreement, and describing how the agreement enters into force, how it is amended, and how it is terminated.

There are some areas in which the Parties have not yet tabled text, but about which there are ongoing discussions. One of those areas involves the "general exceptions." Since the General Agreement on Tariffs and Trade (GATT) entered into force in the late 1940s, all of the comprehensive trade agreements to which the United States is a Party have contained general exceptions. These general exceptions provide that restrictions and obligations contained in the agreement do not prevent the adoption or enforcement of certain types of measures by a Party, provided that the measures are not applied in a manner that would result in an arbitrary or unjustifiable discrimination between countries, and do not constitute a disguised restriction on international trade. The types of environmental measures for which general exceptions apply include measures necessary to protect human, animal or plant life or health, and measures relating to the conservation of exhaustible natural resources, if such measures are made effective in conjunction with restrictions on domestic production or consumption. In the GATT, the exceptions only apply to certain portions of the Agreement. Options for the scope of these provisions, and their environmental impacts, are being considered.

Another area in which the Parties have not to date tabled text, but which has been addressed in certain other FTAs, specifically the NAFTA and the Chile-Canada Free Trade Agreement, is the relationship between the agreement and the specific trade obligations in certain multilateral environmental agreements (MEAs) (*e.g.*, the Convention on International Trade in Endangered Species of Wild Fauna and Flora) to which all Parties of the trade agreement are Parties. This type of provision provides information on how to address any inconsistencies between such specific trade obligations in the identified MEAs and the obligations in the trade agreement. The U.S. government is considering whether to pursue such a provision.

Environmental Regulatory Impacts: The text tabled thus far in this section poses few environmental regulatory issues. One issue arising out of the language in this section is the impact that the preambular or objectives language has on the tone of the agreement and the light under which the provisions in the agreement are analyzed for implementation.

The United States and Chile are considering how broadly general exceptions should apply in the context of the U.S.-Chile FTA, and how to address the relationship between the specific trade obligations in MEAs and this FTA. The United States will continue to review these issues as they develop.

Other Environmental or Public Concerns: The proposed U.S.-Chile Commission is given responsibility for overseeing the implementation of the FTA, including any environmental provisions contained therein, as well as the supervision of any committees or working groups which it establishes, including any that may be established for the purpose of addressing environmental matters. In addition, the Commission would have responsibility for addressing environmental issues to the extent that they would affect the operation of the agreement. The possibility that the public may be asked for input into Commission decision-making may also be significant.

INTELLECTUAL PROPERTY RIGHTS

Introduction and Chapter Summary: The draft chapter on intellectual property complements obligations that the United States and Chile have undertaken through the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) to protect copyrights, patents, trade secrets, trademarks, geographical indications, domain names on the Internet, performances, performers, phonograms, encrypted program-carrying satellite signals, and other forms of intellectual property, and to ensure that there are adequate and effective domestic enforcement procedures in place in each country to protect those rights. It also includes procedures for permitting and approval processes for agricultural chemicals and pharmaceuticals. While intellectual property rights systems do not in and of themselves direct or compel economic activity, they create incentives for developing and commercializing new ideas, technologies, and products that may have an environmental impact, positive or negative.

The proposed agreement would require the Parties to ratify or accede to the following agreements: the Brussels Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite; the Patent Cooperation Treaty; the WIPO Copyright Treaty; and the WIPO Performances and Phonograms Treaty. The proposed agreement also includes adherence to certain articles of the following international conventions: Joint Recommendation Concerning Provisions on the Protection of Well-Known Marks, International Convention for the Protection of New Varieties of Plants, Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite, and the Trademark Law Treaty.

Environmental Regulatory Impacts: The proposed language in this draft chapter is consistent with, and allows flexibility under, existing U.S. law. No provisions were identified that would alter the ability of federal, state, local, or tribal governments to enact, maintain, or enforce environmental laws or regulations.

Other Environmental or Public Concerns: It is expected that transparency measures proposed in this draft chapter will address U.S. civil society concerns about the procedures for approval and maintenance of intellectual property rights in Chile. The draft text reaffirms the commitment of United States and Chile to maintain and enforce intellectual property laws. This renewed commitment may spur innovation of new technologies and further dissemination of intellectual property, including pharmaceuticals and environmental technologies that protect human health and the environment.

INVESTMENT

Introduction and Chapter Summary**:** The objective of the draft investment chapter of the U.S.-Chile FTA is to provide a secure, predictable, and transparent environment for Chilean investment in the United States and U.S. investment in Chile, and to remove or reduce particular types of barriers to investment between Chile and the United States. The draft chapter establishes a basic set of mutual obligations regarding the treatment of investment and investors of the other Party. The proposed obligations, certain of which are described below, are based on U.S. policy and practice with respect to the treatment of foreign investment as well as norms found in customary international law. The draft chapter also establishes a means of resolving disputes that may arise.

The interagency group has examined all provisions currently under negotiation for a draft investment chapter relative to the conditions that would exist in the absence of a FTA with Chile. Accordingly, the proposed provisions were reviewed relative to both existing U.S. domestic environmental policy and U.S. obligations regarding the treatment of foreign investment, as reflected in the 47 international investment agreements the United States has concluded since 1982, including bilateral investment treaties (BITs) and the North American Free Trade Agreement (NAFTA). Certain of the obligations proposed for the U.S.-Chile FTA also have counterparts in the WTO Agreement on Trade Related Investment Measures.

The NAFTA and BIT obligations, as well as the U.S. proposals for the Chile FTA, were designed to be compatible with U.S. environmental policy, law, and practice. That is, where the Administration identifies a need, the obligations are tailored to complement and accommodate U.S. environmental objectives and measures without unduly undermining U.S. investment liberalization objectives.

Analysis for this draft chapter focuses on those elements where the United States has taken positions and has received comments, particularly comments responding to the Federal Register Notice. The analysis is followed by a discussion of other elements that have been the focus of public concerns, which are being examined interagency. The TPSC subcommittee also reviewed provisions where the United States has made proposals, but which did not receive public comment. At this point in the negotiations, the United States has taken positions and tabled proposals only on the following elements: scope; definitions; national treatment; most favored nation treatment; performance requirements; not lowering environmental and labor standards; transfers; the ability to hire key personnel; denial of benefits; strife; public availability of laws, regulations, procedures and administrative practices ("public availability of law"); and a system for protecting measures that do not conform to standards of the agreement through a list of specific exemptions ("listing of exemptions"). These proposals do not significantly differ from the provisions of the NAFTA or BITs.

- ***National Treatment***. The national treatment provision proposed by the United States and Chile prohibits discrimination between similarly situated investments based on the nationality of the owners.

- ***Performance Requirements***. Performance requirements provisions prohibit either Party from imposing any of the listed conditions on investors from the other Party. Neither country may require an investor: to use local goods and services; to purchase locally-produced supplies; to export a certain amount of its product; to correlate local sales with the amount exported; to transfer technological expertise, processes, or other proprietary knowledge; or to locate some or all of its production in the country, as a condition of making or operating the investment. Some performance requirements, called "performance incentives," are allowed when given in exchange for an offsetting advantage from the host country. For example, an investor may agree to perform technology transfer in exchange for a grant or subsidy.

- ***Not Lowering Environmental and Labor Standards***. The purpose of these articles is to discourage countries from reducing their environment and labor protection laws in order to attract foreign investment.

- ***Scope***. The Scope article affirms that the terms of the investment chapter do not apply to any acts or situations that took place before the free trade agreement came into force. This is a basic concept in international law.

- ***Transfers.*** The Transfers article requires each country to let investors freely transfer capital into and out of the country, without unreasonable delay or other burdens, when that capital is related to an investment covered by the agreement. The list of transfers covered by the article is open, not closed, so that transfers related to an investment, even if not on the list, would be covered. The Transfers article allows each country an exception to the free transfers requirement in certain cases such as for law enforcement, compliance with court judgments, or to protect creditors' rights. For example, a government may impose restrictions on taking money out of the country while it investigates whether the money is linked to criminal activities.

- ***Ability to Hire Key Managerial Personnel***. The Key Managerial Personnel article requires each government to allow covered investments to employ top executive personnel of their choice, regardless of nationality. This provision does not require that such personnel be granted entry into the other country; they must independently qualify for an appropriate visa for entry into the territory of that country.

- ***Denial of Benefits***. The Denial of Benefits article has two purposes. First, it exempts each government from the obligation to give the benefits of the investment chapter to a company that is owned or controlled by nationals of a third country with which the denying government does not have normal economic relations. Second, this article exempts each government from the obligation to give the benefits of the investment chapter to a company of the other country if the company is owned or controlled by third-Party nationals and if the company has no substantial business activities in the country where it is established (also known as a "shell corporation").

- ***Public Availability of Laws***. This article is intended to ensure that each country makes public the relevant laws, regulations, administrative practices and procedures, and court and administrative rulings that relate to or may affect investors and their investments. It also requires that, "to the extent practicable," each Party give advance notice and opportunity to comment on proposed laws, regulations, and administrative practices and procedures. An exception is made for confidential or proprietary information whose disclosure would run counter to the country's own laws, interfere with law enforcement, or cause undue harm to the business interests of particular companies.

- ***Non-Conforming Measures***. This article permits each country to protect measures inconsistent with the agreement's commitments by identifying them in an Annex.

Environmental Regulatory Impacts: Neither U.S. foreign investment policy nor current U.S. obligations under its international investment agreements have had significant effects on the maintenance, strengthening, or enforcement of environmental regulation at any level of government. Given the similarity between commitments the United States has assumed in other bilateral and multilateral investment agreements and those contemplated for the U.S.-Chile FTA, for the areas identified above where the United States has already tabled text, it is unlikely that the U.S.-Chile FTA will generate any environmental regulatory impacts. However, concerns have been raised that certain elements in existing agreements have the potential to affect environmental regulations. The United States has not taken positions yet in these FTA negotiations on some of the elements about which such concerns have been raised.

National Treatment

The national treatment obligation prohibits discrimination between similarly situated investments based on the nationality of the owners. U.S. environmental policy is based on environmental considerations, not on ownership of an investment. As a general matter, environmental measures within the United States do not discriminate among investments based on the owner's nationality. In any areas where U.S. measures do discriminate on the basis of nationality, the United States removes such measures from challenge by listing the non-conforming measure in an annex to the agreement as an exemption to the national treatment obligation, and will be doing the same in the FTA.

However, environmental regulators do frequently differentiate based on factors not related to nationality, but rather arising out of different circumstances pertaining to the investment. For example, environmental measures may treat large investments differently than small investments, or apply more stringent operating conditions to investments located in a wetlands area than investments located in less environmentally sensitive areas. There may also be reasons to treat foreign investors differently than domestic investors because, for example, the foreign investors lack assets in the United States sufficient to cover potential liability associated with their activities. This can result in differences in treatment between a foreign owned investment and a domestically owned investment in the same sector or activity. Since the circumstances surrounding these investments are different, such regulation would be consistent with the national treatment obligation. The fact that such legitimate distinctions in

treatment are consistent with the agreement is reinforced by language emphasizing that the investments must be "in like circumstances."

One Federal Register comment expressed a preference that the proposed agreement permit preferential treatment to groups that meet certain standards, such as to companies that meet rigid guidelines for sustainable forestry practices. The comments also recommend that the phrase "in like circumstances" be defined to allow such treatment. As explained above, such preferences would be consistent with the national treatment obligation.

There has been only a single challenge to a U.S. environmental measure under the national treatment provision of any of these agreements, some of which have been in force since the 1980s. There has been no decision with respect to that single challenge, currently under the dispute settlement proceedings of the NAFTA (*Methanex v. United States*).

Performance Requirements

The conditions prohibited in the Performance Requirements section are requirements aimed at changing market conditions, among other things, for imports and exports. The United States does not generally maintain or adopt the proposed prohibited types of measures because they are inconsistent with U.S. economic policy. However, where the prohibited conditions could also be used for environmental reasons, as with prior U.S. investment agreements, the provisions contain a number of exceptions to preserve the ability to take measures necessary to protect the environment, health, and safety, or relating to the conservation of living or non-living exhaustible natural resources. For example, such an exception applies to the prohibition against requirements to purchase local goods as well as the prohibition against the forced transfer of technology. Accordingly, environmental measures that require the use of a given product, or the transfer of a particular technology to other users for environmental purposes, are effectively exempt from the relevant prohibitions. An example of an exempt requirement would be providing pollution control technology information to the Administrator of the EPA to comply with the Clean Air Act.

Chilean and U.S. proposals also permit each country to list exemptions for specific measures that are inconsistent with the performance requirements obligations in order to remove such non-conforming measures from challenge under the agreement. The United States has taken exemptions for such measures and intends to do so in the U.S.-Chile FTA.

The proposed provisions include a clarification that each country is allowed to impose the listed performance conditions on an investor in exchange for an advantage ("performance incentives") to, among other things, provide a service, construct or expand particular facilities, or carry out research and development in its territory. This provision essentially clarifies that the trade-related performance incentives that are prohibited are not to be interpreted to cover the conditions listed. Accordingly, government programs that provide advantages to investors who conduct research and development on renewable energy in exchange for an advantage are not affected by the disciplines.

Public comments expressed a concern that the agreement would exempt foreign investment from performance requirements determined to protect the public interest, particularly in the forestry sector. For the reasons outlined above, the performance requirements are designed to permit requirements to protect the public interest, including in the forestry sector.

The United States has undertaken the same obligations in the NAFTA, and certain of these obligations in the BITs. These commitments have had no effect on environmental regulation under any of these comparable existing obligations. Thus, for the items noted above, there is little reason to anticipate the potential for significant regulatory impacts, either positive or negative. However, concerns have been raised that certain elements in existing agreements have the potential to affect environmental regulations. The United States has not taken positions yet in this FTA on many of the elements about which such concerns have been raised. These are noted below.

Other Environmental or Public Concerns: In addition to the proposals discussed above, the United States has proposed a commitment to make all laws, regulations, and administrative practices and procedures related to investment publicly available as well as advance notice of and an opportunity to comment on such measures before they are finalized. The transparency of laws and the ability for public comment enhances investor knowledge of environmental measures and facilitates compliance with such measures. The opportunity for the public to comment on such measures better informs decision-makers when developing and balancing the protection of investors and the protection of the environment.

The United States and Chile have also proposed a commitment for the investment chapter that discourages governments from waiving or derogating from their own environmental standards to attract investment. The effect of this provision on the environment is expected to be positive. While not a provision that directly affects the environment, the United States has also proposed a provision similar to the NAFTA's environmental provision on Parties not lowering labor standards to attract investment.

As we indicated, the United States has not yet formulated a position with regard to a number of elements of an investment chapter, including several provisions for which public concerns have been raised, such as expropriation and the investor-state dispute resolution mechanism. The U.S. government has tasked an interagency working group with examining in depth whether past provisions, in the NAFTA and in the BITs, should be updated in any way. This process was initiated not simply to address the Chile FTA but to address the broader U.S. position in all future investment agreements. In order to make a determination as to whether changes are warranted, the United States is analyzing how the relevant provisions have been operating in those agreements. An integral part of this analysis is a careful consideration of whether, and if so, how these provisions intersect with the ability to regulate for the protection of the environment and, if so, whether any changes are warranted and what the changes should be. As part of its work, the interagency working group has been and continues to examine the range of environmental concerns that have been expressed by the public and the wide range of substantive and procedural suggestions that have been offered for addressing these concerns. No regulatory impact analysis can be provided in this draft review with respect to those

investment elements which remain to be formulated. However, set out below are specific concerns which have been expressed which are among those being given careful consideration by the interagency group.

Concerns have been expressed regarding expropriation and compensation provisions, which set forth the conditions under which governments may expropriate a foreign investment, and set the terms for calculating and paying compensation to foreign investors who experience losses due to expropriation. Although no U.S. environmental regulations have ever been found to have breached this obligation, one investor has challenged a U.S. environmental measure under the NAFTA expropriation provision. Some view the current challenge under the NAFTA to an environmental measure as an attempt by investors to influence the formation and adoption of regulatory measures and that investors could use the obligations to hinder or evade local regulation. Another concern is whether government conduct that may be deemed to be an expropriation under international commitments goes beyond U.S. domestic law. Suggested changes from the public range from making no change at all from the NAFTA text to eliminating the obligation all together or carving out environmental regulations from coverage.

The public has also expressed concerns with the investor-state dispute settlement mechanism, which gives investors the right to bring claims before an international tribunal that another Party to the agreement, the investor's host government, has violated its obligations. Such a mechanism, which is provided in addition to government-to-government dispute settlement, is designed to enable investors to bring claims that their rights have been violated, without having to persuade their own home government to bring an action.

Comments received assert that the investor-state mechanism is used by investors because, unlike governments, investors are not constrained from bringing claims by political and prudential checks. Other concerns are that rulings could be inconsistent, could misinterpret the commitments, and that there is no public access to or participation in such dispute settlement. Finally, there is concern that foreign investors receive the benefits of a forum that is not available to domestic investors. Changes suggested to the investor-state dispute resolution mechanism range from doing nothing to eliminating investor-state altogether. Among other suggestions are procedural ones such as providing for annulment and/or appeal mechanisms, allowing comments on tribunals' draft reports, increasing the transparency of the investor-state process, and providing a way to reduce the filing of frivolous claims.

Concerns have been expressed regarding the scope and content of the Minimum Standard of Treatment. Minimum Standard of Treatment articles in U.S. agreements require each government to provide to foreign investors the minimum standard of treatment in accordance with customary international law, (*e.g.*, including "fair and equitable treatment" and "full protection and security"). The concern expressed by some is that this obligation is unclear, providing the opportunity for overly expansive interpretations, and that NAFTA tribunals have misinterpreted the provision to include protections beyond customary international law. However, in response to such concerns, the three NAFTA governments have jointly issued a binding interpretation to correct such misinterpretations by

tribunals of NAFTA's minimum standard of treatment provision. (That interpretation also provided for increased public availability of documents filed in NAFTA arbitrations.) Another concern is that the protections afforded to investments by this standard of treatment are greater than those available under domestic law and that such protections could therefore impede the ability to regulate. Suggested changes range from making no change to the obligation to clarifying what the obligation means to limiting the obligation in some way or carving environmental regulations out of this obligation.

Concerns also have been raised as to whether any general exceptions to the FTA, including a general exception for the environment, should apply to the investment chapter of the agreement.

MARKET ACCESS/TRADE IN GOODS

Introduction and Chapter Summary: The draft trade in goods chapter defines the scope of products and commodities the agreement covers and certain terms that the chapter would include. The draft Market Access chapter refers generally to the tariff, non-tariff, and certain customs treatment of agricultural and non-agricultural goods that are traded between the Parties. The draft chapter also includes provisions concerning certain taxes, customs fees, and agricultural export subsidies.

The United States had several objectives for the U.S.-Chile FTA draft chapter on trade in goods. One principal objective is to ensure "national treatment" to require that each Party's goods receive treatment in the other country that is no less favorable than that accorded like products of domestic origin. Another objective is to first limit customs duties to those currently imposed and then provide for progressive reduction and elimination of those duties. A third central objective is to place restrictions on the Parties' imposition of non-tariff measures, such as quantitative restrictions and price requirements, that might inhibit trade between the Parties.

The proposed tariff elimination provisions commit the Parties to progressive reduction and elimination of tariffs on each other's goods, subject to certain conditions. The draft chapter also addresses the interrelation of customs duty waivers and performance requirements; temporary admission of certain goods, including, for example, professional equipment and containers for transshipment; re-entry of goods after repair or alteration; and the limited duty free entry of commercial samples of negligible value and printed advertising materials. The draft text also seeks to reduce subsidies on agricultural goods and measures having equivalent effects. Proposed provisions prevent the Parties from adopting import and export restrictions, except in accordance with Article XI of the World Trade Organization's (WTO) General Agreement on Tariffs and Trade of 1994 (GATT 1994) and its interpretive notes, which would be incorporated into the agreement.

The draft chapter on trade in goods reaffirms rights and obligations of the Parties and promotes liberalization of trade in concert with implementation of the GATT 1994 and associated WTO agreements. It also proposes the establishment of a Trade in Goods Committee consisting of government representatives from the United States and Chile. The objectives of the Committee are to promote trade in goods between the Parties, including accelerated tariff elimination, and to consider issues that hinder the access of goods to the territory of the Parties, especially those related to application of non-tariff measures.

Environmental Regulatory Impacts: The draft trade in goods chapter of the U.S.-Chile FTA works in concert with the GATT, and as such, imposes no new regulatory obligations on the United States. The proposed provisions are not expected to affect the ability of governments, at any level, to enact, maintain, or strengthen environmental regulations.

Other Environmental or Public Concerns: The primary impact of the draft chapter is to expand the range, quality, and competitiveness of goods available to consumers. To the extent that the draft text

eliminates distortions to trade in goods, it promotes production and sourcing decisions based on sustainable economic advantage rather than any artificial or apparent advantage created by trade barriers. The draft trade in goods chapter would eliminate Chile's tariff surcharge on used goods. This would facilitate trade in such goods, including remanufactured goods, providing a basis for trade in a class of goods that optimize energy and resource efficiency in manufacturing and, at the same time, minimize waste. In this respect, the draft chapter would offer noteworthy potential for positive environmental impacts, as increased trade in remanufactured and used goods is expected to reduce levels of pollutants and conserve input materials.

Although neither the United States nor Chile have any export subsidies on their exports to each other, the draft chapter would formalize this situation and pledge the Parties to work towards the multilateral elimination of export subsidies in the WTO process. Should implementation of the provisions assist in the elimination of export subsidies multilaterally, it could have helpful environmental impacts to the extent that the distortions such subsidies may cause on allocation and use of resources, and, hence, sustainable development, would be removed.

The provisions restricting duties on goods re-entering a Party's territory after repair or alteration may also produce environmentally beneficial effects, as increased repair and alteration would extend the usefulness of products and discourage unnecessary production and consumption of energy.

The formation of the Trade in Goods Committee establishes a forum in which the Parties may improve mutual understanding of regulatory modalities and technologies. Implementation of this article might help the Parties improve their regulation and protection of the environment. For more information about specific tariff reductions in the Market Access/Trade in Goods chapter of the FTA, see the Agriculture sectoral analysis in Section III.

RULES OF ORIGIN

Introduction and Chapter Summary: The draft chapter on Rules of Origin outlines the criteria used to define where goods are produced and what materials are used to produce them. The purpose is to ensure that goods originating in and traded between the United States and Chile receive preferential tariff treatment. Products of other countries that are merely transhipped through or undergo minor operations in the United States or Chile are not eligible. There are four ways in which goods generally meet the rule of origin criteria: the good is "wholly obtained or produced" in the territory of one or both of the Parties; the good is produced in the territory of one or both of the Parties from non-originating materials that undergo a specified change in tariff classification, and the good complies with the remaining origin rules; the good is produced entirely in the territory of one or both of the Parties exclusively from originating materials; or the goods are unassembled goods or goods classified in the same category as their parts, and which contain sufficient regional value content.

Environmental Regulatory Impacts: This highly technical draft chapter focuses on determining where a product is made and whether the product qualifies for a tariff preference, and does not affect U.S. environmental regulatory efforts.

SAFEGUARDS

Introduction and Chapter Summary: Drawing on the safeguard provisions embodied in the WTO and NAFTA, the draft chapter on Safeguards would provide the United States and Chile recourse to safeguard action specific to this agreement, while allowing both countries to retain most, if not all, of their rights under the WTO Agreement on Safeguards. A safeguard action allows a country to temporarily restrict imports to protect a specific domestic industry from an increase in imports which is causing, or which is threatening to cause, serious injury to the industry. Safeguards are particularly important because they are the only trade measure that provides a remedy to allow an industry to adjust to an increase in imports of fairly traded goods resulting from trade liberalization.

The draft chapter details specific criteria regarding the injury threshold, causation requirement, and nature of the remedy. Specifically, the import surge may be based in absolute terms or relative to domestic production, and must constitute a substantial cause of serious injury. Additionally, to prevent or remedy serious injury, a Party may either suspend further reduction of any rate of duty provided for under the agreement on the good, or increase the rate of duty on the good to a level not to exceed the most favored nation applied rate of duty. The draft chapter outlines standards for a safeguard measure which limit its duration to a maximum of three years, prohibits repeat action, and requires the resumption of duty rates no higher than the rate that would have been in effect one year after the initiation of the measure. The Parties are required to adhere to a number of procedural requirements with respect to investigation procedures and transparency requirements. Finally, the draft chapter requires that the Party taking a safeguard measure provide mutually agreed trade liberalizing compensation. If no agreement is reached within 30 days, the other Party may suspend the application of substantially equivalent trade concessions.

Environmental Regulatory Impacts: The proposed safeguards provisions of the U.S.-Chile FTA are consistent with current U.S. obligations in other multilateral trade agreements. The safeguards provisions outlined in this draft FTA are unlikely to have any discernable impact on the ability of the United States to enforce, enact, or maintain environmental regulations at any level of government.

SANITARY AND PHYTOSANITARY MEASURES

Introduction and Chapter Summary: The draft U.S.-Chile chapter on Sanitary and Phytosanitary Measures is designed to provide a forum to strengthen the bilateral relations between the two countries. The proposed obligations are intended to improve food safety, animal health and plant health in both countries; to recognize and reaffirm the rights and obligations of the World Trade Organization's Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures; to enhance implementation of the WTO SPS Agreement through discussions, and, where possible, cooperation, collaboration, and technical exchanges; and address trade issues and expand trade opportunities. The draft text also proposes the establishment of an SPS Committee consisting of representatives from the United States and Chile who have responsibility for SPS issues.

The draft text reaffirms the WTO SPS text in its entirety to reinforce both Parties' commitment to its obligations and to avoid problems of interpretation or conflicting obligations. According to the WTO SPS Agreement, SPS measures are applied, *inter alia*, to protect human, animal or plant life or health from risks arising from the entry, establishment, or spread of pests and diseases and arising from additives or contaminants in food, beverages, or feedstuffs. Measures related to environmental protection (other than as defined above), or to protect consumer interests are not covered by the SPS Agreement. The WTO SPS Agreement does not apply to quality and packaging requirements.

Environmental Regulatory Impacts: The proposed U.S.-Chile Committee on Sanitary and Phytosanitary measures and its proposed terms of reference illustrate how the Committee will serve as a forum for both countries to enhance and facilitate implementation of the WTO SPS Agreement. As explained above, the Parties reaffirmed their individual rights under the WTO SPS Agreement. Under the FTA, both Parties will have the opportunity to raise concerns about specific SPS measures; to discuss specific SPS requirements regarding the import and export of food, animal or plant products as defined by the WTO SPS Agreement; to develop and implement technical cooperation programs; to consult with each other on respective positions in the WTO SPS Committee, various committees of the Codex Alimentarius Commission (Codex), the Office of International Epizooties (OIE), and the International Plant Protection Convention (IPPC), and regional fora; to develop processes, procedures, or understandings regarding various aspects of the WTO SPS Agreement such as, but not limited to, risk assessments, equivalence, transparency, regionalization, control, inspection and approval procedures; and to enhance trade between the United States and Chile.

The creation of this Committee will not change existing regulations or impose new regulatory requirements on the United States. However, it may improve implementation or enforcement of current regulations. By working together to discuss their respective food safety and trade concerns, both Parties hope to gain a better understanding of their respective environmental conditions, regulatory needs and requirements, and goals to address public health issues.

Both Parties anticipate that implementation of the U.S.-Chile FTA will increase the level of trade between the Parties. However, because stringent U.S. SPS requirements will remain in effect, neither an increase in Chilean imports nor an increase in U.S. exports will result in a lowering of important

U.S. environmental protections or an altering of the ability of the United States to regulate. As a consequence, the draft U.S.-Chile FTA SPS chapter will not result in a significant impact on the environment, with particular focus on food safety, animal or plant life or health.

Other Environmental or Public Concerns: The draft U.S.-Chile FTA SPS text recognizes and reaffirms the Parties' rights and obligations as Members of the WTO SPS Agreement regarding food safety, human, animal and plant health standards. While the draft text does not replicate the WTO SPS text, it explicitly recognizes the firm commitments of both Parties to uphold and maintain all obligations and rights detailed in the existing WTO SPS Agreement which include, but are not limited to:

- ***Appropriate Level of Protection.*** Article 5.5 of the WTO SPS Agreement recognizes that each Member is free to decide what is its "appropriate level of sanitary and phytosanitary protection," subject to a requirement not to use arbitrary or unjustifiable distinctions in levels of protection, if such distinctions result in discrimination or a disguised restriction on international trade. The draft U.S.-Chile FTA SPS chapter does not interfere with each Party's judgments regarding its appropriate level of protection.

- ***Scientific Basis and Risk Assessment.*** Articles 2.2 and 5.1 of the WTO SPS Agreement require a sanitary or phytosanitary measure to be based on scientific principles and an appropriate risk assessment. If the relevant scientific evidence is insufficient, the government is permitted under Article 5.7 to provisionally adopt sanitary or phytosanitary measure on the basis of available pertinent information, with the obligation to seek additional information and to review the measure in a reasonable period of time. The draft U.S.-Chile FTA SPS chapter preserves the ability of the Parties to make science-based judgments.

- ***Harmonization***. Article 3 of the WTO SPS Agreement encourages the harmonization of sanitary or phytosanitary measures based on international standards, guidelines, and recommendations developed by international standards-setting organizations, which include the Codex, OIE, and the IPPC. The WTO SPS Agreement makes clear that the desire to further harmonization does not require Members to change their appropriate level of protection or SPS measures, preserving the right of the Parties to impose a requirement more stringent than an international standard with a scientific justification, if the international standard does not meet their appropriate level of protection.

- ***Equivalence.*** Article 4.1 of the WTO SPS Agreement requires a Member to accept an exporting country's measure as equivalent to its own, even if the measures differ, if the exporting country "objectively demonstrates" to the importing country that the measure achieves the importing country's level of protection. This provision contemplates that the exporting country would provide information to the importing country in support of its equivalence claim and that the importing country would consider this information in determining whether the exporting country's measure meets its level of protection.

- ***Transparency.*** Article 7 of the WTO SPS Agreement requires Members to promptly publish all SPS regulations and provide an explanation of the reasons for any particular SPS measure.

- ***No More Trade Restrictive than Required***. Article 5.6 of the WTO SPS Agreement states that when establishing or maintaining SPS measures to achieve the appropriate level of protection, Members shall ensure that such measures are not more trade restrictive than required to achieve their appropriate levels of sanitary or phytosanitary protection. A measure is not more trade-restrictive than required unless there is another measure, reasonably available, taking into account technical and economic feasibility, that achieves the appropriate level of protection and is significantly less restrictive to trade. The draft U.S.-Chile SPS chapter reaffirms the right of WTO Members to maintain the more protective measure if an alternative measure is less effective in meeting the Member's appropriate level of SPS protection.

- ***State and Local Government Actions.*** Article 8 of the WTO SPS Agreement preserves the ability of each Member to determine what level of SPS protection it considers appropriate at the federal, state, and local levels of government. National governments, however, are responsible for implementation. The draft chapter preserves the right of the Parties to establish and maintain stringent sanitary and phytosanitary measures to protect human, animal and plant life and health.

SERVICES

Introduction and Chapter Summary: Drawing from the General Agreement on Trade in Services (GATS), the NAFTA, and other trade agreements to which the United States is a Party, the draft services chapter of the U.S.-Chile FTA would ensure a secure, predictable and transparent universe for supply of services between the two countries.

The United States already provides Chile with fairly comprehensive access for supply of services as part of U.S GATS commitments. Chile also provides the United States with certain market access rights under the GATS.

The general scope of the U.S.-Chile FTA draft services chapter pertains to cross-border supply of services: (1) from the territory of one Party into another Party (for example, through electronic means, such as when a lawyer in Santiago provides legal services through telephone, fax or internet to a client in the United States); (2) in the territory of one Party by a person of that Party to a person of another Party (for example, when a Chilean citizen travels to Washington and consumes U.S-supplied services, such as hotel or restaurant services); and (3) by a national of a Party in the territory of another Party (for example, when a Chilean engineer enters the United States to supply engineering services). The United States believes that the general obligations pertaining to investment to supply services are more appropriately addressed under the FTA's chapter on investment. However, the United States has proposed that certain provisions in the draft services chapter related to domestic regulation (see the discussion below regarding domestic regulation relating to transparency and licensing issues) also would apply to commercial presence to supply services (for example, through a subsidiary, joint-venture or branch) – similar to the approach that the United States and Chile already guarantee by virtue of their GATS commitments.

The draft services chapter covers all services sectors[28], with the exception of financial services (the subject of a separate chapter), and very limited treatment of air transport services. Government procurement of services is the subject of a separate chapter on government procurement. The United States also has proposed that the services chapter would exclude services supplied in the exercise of governmental authority, i.e., any service which is supplied neither on a commercial basis, nor in competition with one or more services suppliers. The services chapter does not address temporary entry rights for U.S. and Chilean nationals – that is the subject of a separate chapter on temporary entry.

The draft services chapter contains core obligations, including for national treatment, most-favored-nation treatment, and non-discriminatory quantitative restrictions, but also recognizes the right of Chile and the United States to list measures that do not conform with such obligations ("non-

[28] Tradable services include but are not limited to telecommunications services, professional services (for example, architectural, engineering, accounting, legal services), other business services, computer-and-related services, travel and tourism services, audio-visual services, construction services, and wholesale and retail trade services and environmental services.

conforming measures") so as to exclude them from dispute settlement under the FTA. The United States has been working with U.S. federal and state regulators to ensure that U.S. non-conforming measures receive appropriate treatment under the draft chapter on services. To date, Chile has not made any requests related to U.S. non-conforming measures in environmentally sensitive sectors. Drawing from and elaborating on the GATS and the NAFTA, the services chapter will include provisions on domestic regulation, including transparency of regulatory processes, other obligations relating to measures of general application, and to those specific to qualification requirements and procedures, technical standards and licensing requirements. The United States also is seeking additional disciplines that will apply for the telecom sector, notably regarding access to and use of telecommunications networks and pro-competitive regulatory obligations on major suppliers of telecommunications services.

Environmental Regulatory Impacts: Some interested persons have expressed concerns that the negotiation of a services chapter might limit the U.S. ability to regulate the supply of services, including for environmentally-sensitive sectors. On the contrary, nothing in the U.S.-proposed approach to the chapter is expected to diminish the ability of regulators to regulate, including the right of Parties to set, maintain, and enforce high levels of protection for consumers, health, safety and the environment. The United States is aware of the concerns that some interested persons have raised in regard to the concept of "no more burdensome than necessary" as it would apply to qualification requirements and procedures, technical standards and licensing requirements. The United States has some experience implementing the obligations in the GATS and the NAFTA chapter on services. Nothing in this experience has restricted the ability of the United States to regulate. Therefore, in designing its draft disciplines related to domestic regulation, the United States drew from these familiar approaches from the NAFTA or the GATS to ensure there would be no additional impact on the U.S. environmental regulations or its regulatory regime. In addition, the United States has proposed the establishment of a future work program so that the Parties could, if they deem appropriate, explore any such issues in more detail.

Specific to cross-border supply of services, some interested persons have noted that services such as maritime transport (cruise lines based in one country that operate within the jurisdiction of another country); tour operators and guides based in one country that operate in another country; and environmental services could have environmental implications.

In another area related to domestic regulation, transparency of domestic regulatory processes, the United States has proposed certain elaborations to the NAFTA and the GATS to ensure better opportunities for all interested persons to obtain access to, understand and track the implementation of regulations, including environmental regulations. However, the U.S. objectives on transparency draw from the Federal Administrative Procedures Act, and similar acts applied by the U.S. states, and are therefore merely replicating domestic legal obligations already in place for U.S. regulators.

The draft chapter's definition of the standard for application of national treatment evaluates whether the foreign supplier is "in like circumstances" to the domestic supplier. The same concept applies for most-favored-nation treatment. This concept would allow for different treatment for service suppliers

depending on the relevant particular circumstances so as, in appropriate circumstances, to permit differential treatment on the basis of factors or conditions related to the regulatory objective. This concept may prove useful in the context of environmental regulation, since if environmental regulators discriminate among service suppliers, it would be on the basis of different circumstances rather than the service supplier's nationality.

Other Environmental or Public Concerns: Interested persons have raised several issues connected with domestic regulation that are addressed above in the section on environmental regulatory impacts. In addition, some interested persons have expressed concerns that the negotiation of a services chapter might result in a requirement to privatize the supply of certain services. On the contrary, nothing in the chapter would require governments to privatize a particular service or to allow private sector participation in a particular sector, for example, healthcare or educational services. As the only an exception to this policy, consistent with U.S. policy in the telecommunications services sector, the United States is pursuing privatization of Chilean government-owned national telecommunications carriers.

Some interested persons have emphasized that the draft services chapter should not mandate the removal of U.S. measures that may conflict with core obligations on national treatment , most-favored-nation treatment or non-discriminatory quantitative restrictions. As outlined above, the U.S. approach on such "non-conforming measures" ensures the right of the United States to list measures that do not conform with the core obligations so as to exclude them from dispute settlement under the FTA.

Finally, some interested persons have highlighted the importance of ensuring that "general exceptions" would apply for the services chapter. The United States is addressing the scope of "general exceptions" as part of the work of the FTA's institutional issues group. The United States recognizes that general exceptions have applied to the services sector in other contexts, for example, under the NAFTA and the GATS Agreement.

TECHNICAL BARRIERS TO TRADE

Introduction and Chapter Summary: The draft TBT chapter recognizes and reaffirms the rights and obligations of the Technical Barriers to Trade Agreement (WTO TBT Agreement). In the spirit of bilateral cooperation, the draft TBT chapter in this bilateral agreement builds upon the WTO TBT Agreement and creates a Committee to strengthen relations between the two Parties through their respective agencies on matters related to the WTO TBT Agreement. The draft chapter encompasses three types of measures: standards, technical regulations, and conformity assessment procedures. The proposed provisions of the U.S.-Chile TBT text only apply to measures that affect goods in trade, and are not expected to include government procurement specifications or sanitary and phytosanitary measures.

The draft TBT chapter establishes a Committee to: monitor the implementation and administration of the chapter and provide opportunities for appropriate Chilean and U.S. officials to exchange information and enhance cooperation on the development and strengthening of matters within the scope of the chapter. A broad range of issues may be identified by the Parties and addressed under the Committee, including those related to the adoption, application, or enforcement of standards, technical regulations, or conformity assessment procedures. The Committee may increase cooperation between the Parties and may help them identify health and environmental protection issues that need to be addressed. The Committee established by the draft chapter also gives the Parties a venue to work out issues that might otherwise lead to dispute settlement proceedings. The cooperation element listed under Committee functions may also allow the Parties to facilitate joint efforts to enhance levels of environmental protection. Finally, while the Parties agree to meet once a year, there is flexibility to change the frequency of the meetings should urgent needs arise or competing demands take precedence.

The draft TBT chapter recognizes progress made on the topic of international standards in the recently concluded second triennial review of the WTO TBT Agreement and confirms the understanding that international standards, guidelines, and recommendations are those that are developed following the principles of: transparency, openness, impartiality and consensus, relevance and effectiveness, coherence, and developing country interests.

The technical regulations section builds on the WTO TBT Agreement by adding a transparency consideration. Under the WTO TBT Agreement, Members are already directed to give positive consideration to accepting as equivalent the technical regulations of other Members, provided they are satisfied that the regulations adequately fulfill the objectives of their own regulations. There is little experience in implementing the WTO provision and the intent of the proposed provision in the U.S.-Chile FTA is to allow an opportunity for a Party to learn from the other why certain measures might not be deemed equivalent. This provision provides additional accountability in the process. Likewise, the proposed conformity assessment provisions recognize that a broad range of mechanisms exist to facilitate the acceptance of conformity assessment results. The proposed provisions provide an opportunity for a Party to request explanations from the other Party for not accepting the results of a

conformity assessment procedure, recognizing its conformity assessment bodies, or not engaging in or concluding negotiations designed to facilitate such recognition.

The transparency measures in the draft TBT chapter set forth important provisions that may enhance the ability of all interested persons and each Party to the bilateral agreement to access information on their respective TBT measures and to participate in their development. In such a manner, the draft TBT chapter reinforces many of the existing open, transparent, and due process considerations already found in the U.S. rulemaking process under the Administrative Procedures Act and other authorities.

Environmental Regulatory Impacts: The proposed provision on the use of international standards is consistent with both the Uruguay Round Agreements Act and the U.S. approach to regulation under the National Technology Transfer Act by ensuring that international standard-setting organizations follow transparent procedures and embrace due process interests, including providing for public input. The U.S. government does not expect such a provision to affect the ability of the United States to regulate to protect the environment.

Neither the proposed conformity assessment provisions nor the draft text on technical regulations is expected to have an effect on the U.S. ability to regulate. Both of these proposed provisions are intended to provide additional positive procedural aspects to the TBT disciplines, increasing transparency and improving communications between the Parties.

Finally, the new transparency element**s** in the draft TBT chapter allowing Parties to request information regarding justifications for proposals by the other Party should not add any additional burdens with respect to U.S. health and environmental regulations. Requesters may readily be directed to existing sources of information, such as the Federal Register and government websites, which should contribute to the transparency efforts of the U.S. government. The remaining obligations in the draft chapter are also consistent with the mandates of U.S. domestic regulatory authorities and do not prejudice the regulatory ability of the United States.

Other Environmental or Public Concerns: For the first time, the draft text specifically recognizes that publication of standards may be by electronic means. This may allow more people to access the information and to share it expeditiously. Electronic publication may also be less resource intensive than providing hard copies in terms of total cost and life cycle (the production, distribution, consumption, and disposal of paper) environmental impacts. This should have a positive effect on both Parties' regulations although most U.S. regulations may already be found in electronic sources.

While the draft FTA TBT chapter does not replicate the WTO TBT text, it explicitly recognizes the firm commitments of the Parties to uphold and maintain the obligations and rights detailed in the WTO TBT text. Some of these rights and obligations have environmental implications, or have been the subject of public comment. A short summary of selected elements of the TBT chapter is provided below:

- ***Appropriate Levels of Protection***. The preamble of the WTO TBT Agreement, which functions to provide context for the Agreement, specifically states that, consistent with the Agreement, no country should be prevented from taking measures for protection of the environment at the levels it considers appropriate. Environmental protection is also included in a non-exhaustive list of legitimate objectives for which a country may prepare, adopt, or apply technical regulations. The draft TBT chapter, in reaffirming the WTO TBT Agreement, follows the approach that necessary measures include those measures necessary for the implementation and enforcement of health, safety, and environmental regulations. In this manner, the draft TBT chapter recognizes the authority for the implementation and enforcement of U.S. health and environment regulations.

- ***Non-discrimination***. Non-discrimination is fundamental to free trade among nations in general. The WTO TBT Agreement provides that TBT measures must not be applied in a manner that would constitute a means of arbitrary or unjustifiable discrimination between countries or a disguised restriction on international trade. Measures must also treat imports from another country no less favorably than that accorded to like domestic products or like products from other countries.

- ***Not More Trade Restrictive than Necessary***. In reaffirming the WTO TBT Agreement, this draft TBT chapter reaffirms that in order to avoid creating unnecessary obstacles to trade, measures shall not be more trade restrictive than necessary to fulfill a legitimate objective. Health and the environment are listed as examples of legitimate objectives; a measure would not be inconsistent with this provision unless other measures are shown to be available, significantly less trade restrictive, and equally effective in achieving the health or environmental objective sought.

- ***International Standards***. Basing technical regulations on international standards promotes the compatibility or harmonization of a variety of country requirements affecting the trade of goods in international commerce. However, this is only required where it is effective and appropriate to use such a standard or its relevant parts to fulfill the legitimate objectives pursued by a technical regulation.

  By reaffirming the WTO TBT, the draft TBT chapter recognizes that a country may depart from an international standard in the development of a technical regulation if the international standard is ineffective or inappropriate, for example because of fundamental climatic or geographic factors or fundamental technological problems. The use of an international standard will also be ineffective or inappropriate for a technical regulation if it fails to achieve the desired level of health or environmental protection, which the Preamble to the WTO TBT chapter affirms is set by the individual Member at the level the Member deems appropriate.

TEMPORARY ENTRY FOR BUSINESS PERSONS

Introduction and Chapter Summary: The draft temporary entry chapter will include commitments by each country governing the "temporary entry" of persons engaged in business and professional activities. The provisions of this chapter will have a bearing on the terms and duration of entry of Chilean aliens admitted temporarily into the United States. Temporary entry is defined as entry by a business person of one country into the territory of the other country without the intent to establish permanent residence in the other country. This connection between trade and movement of persons is not new and historically has been part of U.S. international trade and economic agreements. Both the Chilean and U.S. governments have tabled text concerning temporary entry for business persons. The provisions contain measures for the temporary entry of business visitors, traders and investors, intra-company transferees, and professionals. Commitments undertaken in the areas of professionals and traders and investors may require legislative changes.

Environmental Regulatory Impacts: The proposed U.S.-Chile FTA will have no reasonably foreseeable negative environmental impacts arising from the implementation of a temporary entry chapter as part of the U.S.-Chile FTA. On the positive side, both countries currently have exclusions in their immigration laws for denying entry into their country a visa applicant that is deemed a risk to public health, safety, or national security. Nothing in the temporary entry chapter prevents either country from implementing its immigration laws relating to public health, safety, or national security.

TRANSPARENCY PROVISIONS

Introduction and Chapter Summary: The United States and Chile are engaged in discussions on how best to address transparency issues in the proposed FTA. While the United States has not yet tabled text in this area, one approach under consideration is for both Parties to assume general transparency obligations similar to those found in Chapter Eighteen of the NAFTA. The United States has expressed a willingness to consider the inclusion of such a chapter in the U.S.-Chile FTA if combined with more specific obligations, where necessary, in individual chapters.

Chapter Eighteen of the NAFTA ("Publication, Notification, and Administration of Laws") contains provisions requiring the publication or exchange of information concerning regulatory, judicial, and legislative decisions related to matters covered by that Agreement. Among other things, the language of the NAFTA provides that Parties publish or otherwise make available to interested persons their laws, regulations, procedures, and administrative rulings of general application concerning covered matters. The NAFTA also requires Parties to notify the other Party of, and provide information concerning, measures or proposed measures that might affect the operation of the NAFTA or the other Party's interests under it. Chapter Eighteen requires the Parties to provide a measure of due process in administrative proceedings concerning general applied measures that affect matters covered by the Agreement. The prescribed due process includes reasonable notice, an opportunity for affected Parties to be heard and present facts before a final administrative action, and procedures that are in accordance with domestic law. Finally, the NAFTA calls for a mechanism for seeking the review or appeal and, where warranted, correction of any final administrative action.

Environmental Regulatory Impacts: As a general matter, the environmental regulatory impact of including language similar to NAFTA would be negligible as the United States already complies with the NAFTA requirements.

V: ENVIRONMENTAL COOPERATION

The Government of the United States of America (United States) and the Government of Chile (Chile) have a long and productive history of environmental cooperation, including in areas such as air quality, solid waste management, forestry, clean production, fisheries, mining, agriculture, national parks, and scientific research. In order to further past efforts, the United States and Chile are considering a range of elements that could form the basis of an environmental cooperation agreement. The purpose of such an agreement would be to advance environmental protection efforts undertaken by the two countries. In addition, it would provide a mechanism for both countries to implement effective solutions to environmental problems in the Hemisphere.

The discussions between the Parties regarding environmental cooperation have not been exhaustive or conducted with the intention of prejudging how environmental issues will be addressed in the context of the proposed U.S.-Chile FTA. However, the United States believes that environmental cooperation agreements can enhance and complement FTAs between Parties by ensuring that increased trade and economic development are mutually supportive of each Party's environmental goals.

During the negotiating process, the United States and Chile discussed a broad range of past cooperation activities, which included sectoral-based initiatives (*e.g.*, initiatives focusing on mining and agriculture), as well as general capacity-building and development projects and agreements. Both the United States and Chile recognized the success of the activities and intend to build on these initiatives whenever appropriate. In order to avoid duplication of existing efforts when developing projects or work items under any proposed cooperation agreement, the United States and Chile developed an inventory of existing cooperation mechanisms. That document, entitled "Inventory of Environmental Cooperation Activities" was completed in September of 2001 and is presented in Annex IV.

The programs and projects undertaken in the framework of a proposed bilateral cooperation agreement would be based on the domestic priorities of each government, and would take into account the views of civil society. Any work program would coordinate the range of bilateral activities covered by the agreement and promote the exchange of information on and increased awareness of trade-related environmental issues at the bilateral, regional and global level.

Any environmental cooperation work program would be agreed to by both Parties, reviewed on a periodic basis, and amended as appropriate. Potential elements under consideration by the Parties could include among its objectives:

- Promoting the development and effective enforcement of environmental regulations and laws through training, capacity building, cooperative enforcement activities, and technical assistance.

- Strengthening the capacity of both governments on trade and environment issues, including transparency, public participation, pollution prevention and reduction, and natural resource conservation.

- Creating a monitoring mechanism to examine the effectiveness of the cooperation efforts, and incorporating the findings when determining future activities.

- Exchanging information and expertise on the development of environment-specific norms and standards, environmental regulations, and on voluntary and incentive-based approaches to environmental protection, including information on administration and implementation.

- Addressing the environmental management and environmental technology needs of businesses to promote sustainable development, in particular, of small and medium-sized businesses.

VI. ANNEXES

ANNEX I

LISTING OF RESPONSES TO THE DECEMBER 14, 2000 FEDERAL REGISTER NOTICE REGARDING THE ENVIRONMENT

American Electronics Association
American Apparel & Footwear Association
America Chamber of Commerce (AmCham) Chile
American Chemistry Council
American Dehydrated Onion & Garlic Association
American Farm Bureau Federation
American Federation of Labor and Congress of Industrial Organizations
American Forest and Paper Association
Arcadis, Geraghty & Miller, Inc.
Bullock, John (Attorney)
California Farm Bureau Federation
California Technology, Trade and Commerce Agency
Cargill
Caterpiller, Inc.
Chamber of Commerce of USA/ Association of American Chambers of Commerce in Latin America
Cobre Cerrillos S.A. (COCESA)
Energy Services Coalition
Exxon Mobil Corporation
General Motors Corp.
Grocery Manufacturers of America
International Mass Retail Association
International Paper
Levi Strauss & Co.
Methanex Methanol Company
National Association of Manufacturers
National Electrical Manufacturers Association
National Milk Producers Fed. & U.S. Dairy Export Council
National Mining Association
Natural Resources Defense Council; American Lands Alliance; Pacific Environment; Defenders of Wildlife; Friends of the Earth; Earthjustice; CODEFF; Centro Austral de Derecho Ambiental (Southern Environmental Law Center)
New York Life Intl., Inc.
Novartis Corp.
Peterburg Vessel Owners Association

Rancher-Cattleman Action Legal
State of Alaska, Tony Knowles, Governor
State of California, Lon Hatamiya, Secretary
Steel Hector Davis (DHL Worldwide Express)
United Airlines
United Fisherman of Alaska
Wheat Export Trade Education Committee; U.S. Wheat Associates; National Association of Wheat Growers

ANNEX II

SELECTED MULTILATERAL AND REGIONAL AGREEMENTS TO WHICH THE GOVERNMENT OF CHILE IS A PARTY

CONSERVATION OF BIODIVERSITY

International Convention for the Protection of New Varieties of Plants (as Amended)
Convention on Biological Diversity
Madrid Protocol on Environmental Protection to the Antarctic Treaty
International Plant Protection Convention and International Plant Protection Convention (Revised Text)
Framework of the Food and Agriculture Organization of the United Nations
Constitution of the Food and Agriculture Organization of the United Nations
Convention on the Conservation of Migratory Species of Wild Animals
Agreed Measures for the Conservation of Antarctic Fauna and Flora
The Antarctic Treaty
Convention Concerning the Protection of the World Cultural and Natural Heritage
Convention on International Trade in Endangered Species of Wild Fauna and Flora
Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere
The Cartagena Protocol on Biosafety

DESERTIFICATION

International Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa

HAZARDOUS WASTE

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

GLOBAL CLIMATE CHANGE

Framework Convention on Climate Change

STRATOSPHERIC OZONE DEPLETION

Montreal Protocol on Substances that Deplete the Ozone Layer and Amendments
Vienna Convention for the Protection of the Ozone Layer

SHIPPING

International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties
Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil
International Convention for the Prevention of Pollution from Ships (as modified)
International Convention for the Prevention of Pollution from Ships

International Convention for the Prevention of Pollution of the Sea by Oil (as amended)
International Convention on Civil Liability for Oil Pollution Damage
Convention on the International Maritime Organization

OCEANS AND THEIR LIVING RESOURCES

Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982
Convention on Wetlands of International Importance Especially as Waterfowl Habitat and Amendments to Articles 6 and 7 of the Convention
Protocol II to the Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific
Convention of the Law of the Sea
Protocol to the International Convention for the Regulation of Whaling
Protocol for the Protection of South East Pacific against Pollution from Land Based Sources
Convention for the Protection of the Marine Environment and Coastal Area of the South East Pacific
Convention on the Conservation of Antarctic Marine Living Resources
Convention for the Conservation of Antarctic Seals
International Convention for the Regulation of Whaling
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter and Amendments to the Annexes

PESTICIDES AND CHEMICALS

The Stockholm Convention on Persistent Organic Pollutants
The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

ANNEX III

CHILEAN LAWS AND REGULATIONS[29]

Chile's legal system is a civil code system, in contrast to the United States, whose system is based on common law. Since Chile is a unitary state, rather than a state with Federal and sub-Federal jurisdictions, most laws and regulations are applied uniformly throughout the country. All laws and regulations are subordinate to the Chilean Constitution, which serves as the basis for environmental and other laws in Chile. The Supreme Court of Chile is the highest judicial body in the country. Appeals courts and other lower level courts throughout the 12 regions of Chile and the Metropolitan Region are responsible for adjudicating cases related to the nation's environmental laws.

Although Chile continues to face significant environmental challenges, it has made considerable progress toward establishing a comprehensive legal system for environmental protection. Among Chile's primary accomplishments in this area are: (1) adoption of a revised Constitution that guarantees the right of all citizens and residents of Chile to live in a clean environment, together with a legal cause of action to enforce that right; (2) adoption of a basic environmental framework law that provides a general structure for a broad range of environmental protection measures, including environmental risk and impact assessment, natural resources stewardship, pollution prevention and control for all environmental media through, *e.g.* promulgation of primary, human health-based standards and secondary standards that deal with other aspects of environmental protection, and a new legal cause of action for environmental damage that recognizes the "polluter pays" principle; (3) creation of the National Commission on the Environment (CONAMA) and 12 regional environmental commissions (COREMAs); and (4) creation of a series of regulations, norms, and standards necessary to implement the environmental framework law.

While many of the regulations, norms, and standards necessary to implement the environmental framework law are in place, some are still under development, including some of the standards for air and water pollutant emissions. Development of the standards began in May of 1995 with the entry into force of the Chilean regulations that establish the procedure for developing environmental standards, including primary and secondary emission standards.

Selected environmental standards already in force in Chile include the primary air quality standards for lead, sulfur dioxide (SO2), nitrous oxides (NOX), ozone (O3), carbon monoxide (CO), and particulate matter of 10 microns or less (PM-10); the emission standards for liquid waste discharges to surface waters and to sewage systems; and the emission standards for arsenic to air. There are also environmental standards that are in the process of being promulgated, such as the primary air quality standard for particulate matter of 2.5 microns or less (PM-2.5), the airborne particulate matter emissions standards for the Huasco River Basin, the water quality standard to protect inland surface waters and the ocean, and the standards for emissions to groundwaters.

[29] The primary source for the factual information in this section is the Government of Chile.

Chile does not have a central government agency with comprehensive authority to implement and enforce environmental law. Instead, many government entities, ranging from the Ministry of Health Services, the General Directorate of Water Affairs, the National Forestry Corporation, and various Chilean municipal governments, are responsible for implementing and enforcing environmental standards within their respective areas of jurisdiction.

CONAMA is an interministerial commission charged with the overall coordination of national environmental policy and operates under the direct authority and supervision of the Executive Office of the President. Established in 1990, CONAMA is responsible for implementation of the 1994 Framework Law, promotion of public participation and environmental education, oversight of the environmental impact assessment process, and, as necessary, informing the President of Chile about compliance with and enforcement of environmental legislation. The COREMAs are tasked with coordinating regional environmental management, evaluating environmental impact assessments (EIAs) that are regional in scope, and developing and implementing decontamination plans with application within their regions.

Administrative enforcement mechanisms exist in Chile, and Chilean courts consider citizen suits regarding the environment under the Chilean Constitution, the Chilean Civil Code, and the Environmental Framework Law. Nevertheless, government enforcement of existing environmental laws, regulations, and standards is constrained by resource limitations and by the fact that many of the environmental enforcement institutions in Chile are in their early stages of development. Chilean enforcement of environmental regulations is most effective when public health may be threatened, such as in the case of severe air pollution and contamination from industrial waste. For example, in 1997, close to 100 facilities were shut down in the Santiago metropolitan region and along the Chilean coast for air pollution violations, and 20 chemical electroplating and tannery facilities were shut down for industrial effluent violations.

The Chilean Environmental Regulatory System

The summary below is organized by subject matter area. It is based on extensive discussions between U.S. government officials and Chilean government representatives, business leaders, non-governmental organizations, and members of the academic community during a 1994 information gathering trip; analysis of written materials gathered since 1994; discussions at the 1998 and 1999 U.S.-Chile Joint Committee on Trade and Investment (JCTI) meetings; reporting cables by the U.S. Embassy in Santiago, Chile; and information provided in the course of the U.S.-Chile FTA negotiations.

Air Pollution

Perhaps the most developed environmental regulatory system in Chile at present is its regulation of air pollution sources. It relies heavily on ambient emissions standards. For example, Supreme Decree 185 establishes ambient standards applicable to sulfur dioxide (SO2) and particulate matter (PM-10)

emissions from copper smelters. If an area exceeds an ambient standard, and if the area is classified as a saturated area for that specific pollutant, then a decontamination plan is to be established according to set procedures, which includes a timetable for implementing emission reductions from each polluting source in the area. Supreme Decree 94 sets forth the procedures and other requirements for decontamination plans.

Chile has adopted air pollutant emissions limits and emergency ambient air quality standards, that apply to the Santiago metropolitan area. In accordance with Supreme Decree 04, issued in 1992 by the Ministry of Health, and the amendments included in the Air Pollution Prevention and Decontamination Plan, stationary sources in the Santiago Metropolitan Region are required to comply with emission standards for particulate matter. The emission levels allowed under the Supreme Decree depend on the features of the sources. However, no source may exceed the maximum allowable emission level of 112 milligrams per normal cubic meter. The two other sets of air pollutant emissions standards currently in force for stationary sources in Chile are:

- Arsenic emission standards (Supreme Decree 165 issued in 1998 by the Policy Coordination Ministry): This standard establishes specific maximum annual arsenic emissions for eight zones in Chilean territory where main arsenic polluting sources are located. Most of the sources required to comply with this standard are copper smelters although the Supreme Decree applies to all sources of airborne arsenic emissions. The Decree requires that new sources shall emit an amount equal to or less than five percent of the weight of the arsenic fed into the emission source. In addition, new arsenic emission sources processing copper compounds shall emit an amount equal to or less than 0.024 percent of the weight of the arsenic fed into the emission source. For existing sources, the maximum emission standard varies depending on the zone in which the sources are located. For example, existing sources in the Province of Cachapoal, Region II, were subject to a maximum emission level of 1880 tons per year during the year 2000. The same sources are only allowed to emit a maximum of 375 tons per year of arsenic in 2001. These limits were developed to protect both public health and renewable natural resources.

- Offensive odors emission standard: This standard regulates emissions of hydrogen sulfide compounds and mercaptans (TRS gas) associated with the manufacture of sulfated pulp from cellulose manufacturing plants.

Two other sets of air emissions standards are in development. The first set are particulate emissions standards for the Huasco River basin, which will establish particulate matter emissions limits for thermal power plants and iron pellet plants operating in that geographical area. This standard is intended to prevent the adverse effects of particulate matter deposits on olive trees. The second set are incinerator emissions standards, which are designed to prevent negative health and environmental effects caused by incineration of wastes. Those wastes are defined as such by the 1992 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

Water Pollution

Chile has a regulation under its Water Code that governs the discharge of liquid industrial wastes to water. There are two standards that control the discharge of such waste from point sources:

- Executive Order DS MOP No. 609/98, Emission Standards Regulating Pollutants Linked to Dumping Industrial Liquid Waste into Sewer Systems, became effective in August 1998. This set of standards considers various compliance scenarios for existing sources that discharge into a sewage system, depending on the existence of a treatment plant. The established time for compliance varies between one and two years.

- Executive Order DS SEGPRES No. 90/00, Standards Regulating Pollutants Associated with Discharges of Liquid Waste into the Sea and Continental Surface Waters, became effective on September 3, 2001. The standards are applicable immediately to new sources, while existing sources must come into compliance within certain time periods established by the norm. All liquid wastes discharged by the polluting sources to the ocean as well as to inland surface waters are covered by these standards. The specific emissions limits depend on the type of water body (i.e., lakes, rivers, or oceans) into which the liquid wastes are discharged.

Chile is also preparing a standard to govern the discharge of liquid wastes into underground waters. When it is finalized, it will regulate the discharge of liquid wastes into underground waters as a final method of disposal.

Water pollution from non-point sources in Chile is largely unregulated. However, the Ministry of the Economy, Development, and Production promotes voluntary clean production agreements with economic sectors that contribute to water contamination from non-point sources. There are also sectoral administrative instruments, involving management or handling standards, that apply to pesticides or nutrients. Once environmental quality standards applicable to the protection of continental and ocean waters are in effect, it will be easier to assess the degree of contamination in Chile from non-point sources. This in turn could lead to the development of decontamination or prevention plans to efficiently control water pollution from non-point sources.

The National Environmental Quality Standards Applicable to Superficial Waters was approved by the Council of Ministries in May, 2001 and is currently in its final legal revision. In addition, a National Environmental Quality Standards Applicable to Ocean Water is expected by the end of 2001. This set of standards will establish protection levels for the conservation and protection of aquatic life and for the protection of public health.

Pesticides and Toxic Substances

The Ministry of Health is the authority responsible for establishing the levels of pesticide residue tolerances for agricultural products produced by Chile. The Chilean regulation establishing the tolerance levels is based on the levels established in the *Codex Alimentarius*. The following pesticides are banned from agricultural use in Chile: sodium monofluoracetate or Compound 1080, DDT, Dieldrin, Endrin, Heptachlor, Chlordan, Aldrin, Daminozide, organic and inorganic mercury

salts, Mevinfos, 2-5-4-t, Clodimeform, Toxaphene, Campheclor, pesticides containing Lindane, pesticides based on Parathion and Methyl, and Pentachlorophenol. In addition, there are restrictions on the use of Paraquat and the acceptable levels of chlorinated pesticides in fillings, and Ethylene Dibromide is prohibited for use as a fruit and vegetable fumigant. Certain other pesticides (e.g., Mirex) are not legally authorized for use in Chile because they are not registered for use. In most instances in which pesticides are banned for use in Chile, their importation, manufacture, sale, and distribution is also prohibited by Chilean law.

The Ministry of Health authorizes the use of sanitary and household pesticides and the Ministry of Agriculture authorizes agricultural pesticides for use in Chile. Thus, there are some chemicals that are prohibited for agricultural purposes and authorized for sanitary and household applications. There are also pesticides that are registered for use in Chile that are not registered for use or are prohibited for use in the United States[30]. There are also differences in established residue tolerance levels between the United States and Chile. However, Chilean exporters have reportedly set up a system for meeting U.S. requirements, including residue tolerances on agricultural products exported from Chile to the United States. Discussions are currently underway between various Ministries of the Government of Chile and the Fruit and Vegetable Growers' Committee to execute a voluntary "Agreement on Clean Production to Implement Good Agricultural Practices in the Fruit and Vegetable Growing Sector". The Agreement will incorporate regulations and requirements found in demanding markets, such as the 1998 "Guidelines for Reducing Microbiological Risks in Fresh Fruit and Vegetables" by the U.S. Food and Drug Administration.

In the area of toxic substances, the U.S. government identified four applicable regulations. The Ministry of Health approved Supreme Decree 144 in 1985 to regulate the production, distribution, sale, and use of organic solvents, including pure organic solvents, mixtures thereof, and products for industrial or domestic use that contain these chemicals. It regulates the labeling of such products and forbids the use of benzene as a solvent or thinner, with some exceptions. Resolution 1634, also issued in 1985, establishes the list of solvents subject to the provisions of Supreme Decree 144. Supreme Decree 374, issued in 1997, establishes the maximum concentrations of lead allowed in paint at 0.06 percent of lead by weight, in the form of metallic lead, determined on a dry basis or in terms of total non-volatile contents. This maximum concentration applies to paints, varnishes, and similar products used to cover surfaces and to paints used in schools, but it does not apply to certain other types of paint application. Supreme Decree 754, issued in 1998, prohibits the use of toluene in glues and adhesives and forbids the manufacturing, importing, distributing, selling, and using of glues and adhesives containing toluene except when it is present as an impurity that does not exceed the maximum limit of 0.5 percent by weight in toluene[31].

Hazardous Waste

[30] Please refer to http://www.chem.unep.ch/pops/POPs_Inc/proceedings/Iguazu/PARATORI.html for additional information on registered pesticides in Chile.

[31] Please refer to http://www.pl.cl/frame.asp?pag=normativas/residuos.asp for specific details on the regulations mentioned above.

There are currently no regulations in Chile that comprehensively govern the treatment, disposal, and storage of hazardous waste. Nor does Chilean law specifically define hazardous waste as a distinct subset of solid waste. Because of the lack of sufficient regulations to comprehensively control hazardous waste, on May 31, 2001, the Ministry of Health submitted regulations on hazardous waste for consideration by the Policy Coordination Ministry. These regulations would set forth criteria for defining hazardous waste, the minimum requirements for storing, transporting, and disposing of hazardous waste, and documentation of the generation, transfer, and receipt of hazardous waste. Since 1999, the Ministry of Health and CONAMA have studied the health effects of hazardous waste in Chile, in order to finalize legislation which will place limits on transporting hazardous waste and prohibit its importation.[32]

There are regulations in Chile that set forth the minimum requirements for handling waste at industrial sites and other work places. The Ministry of Health approved these regulations in 1999. Among other things, the regulations establish that the generator of waste for transport and/or disposal outside the premises where it is generated must "declare," in a document, the types and amount of waste, and must identify the recipient and transporter of the waste. A copy of the declaration must be sent to the relevant Health Service prior to the transfer of the waste. The declaration itself must accompany the waste during transport until it reaches the recipient. The recipient is then required to send the original declaration to the Health Service. The declaration must describe the quantity of waste, and clearly identifying whether or not the waste is hazardous. A list of wastes considered to be hazardous is provided to those using or handling the waste. Chile has no law that comprehensively requires remediation of hazardous waste sites. However, some hazardous waste sites have been cleaned up as a result of environmental damage suits brought pursuant to the Environmental Framework Law.

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was enacted as a law of the Republic by Executive Order in 1992. The Convention imposes obligations regarding the export to other countries for disposal of hazardous waste generated in Chile. In Chile, CONAMA and several other Ministries, including Health, Exterior Relations, and Agriculture and Livestock, participate in implementing the Convention. Currently, procedures to fully implement the Convention have been established, but no specific regulations regarding the Convention are yet in place. The Parliament is deliberating legislation that would more directly implement the Convention in Chile.[33]

Fisheries

In response to tremendous growth of the fish farming industry in Chile, including salmon farming, Chile has implemented a number of environmental measures directed at fisheries over the past 12 years. In

[32] Please refer to http://www.conama.cl/gestion_ambiental/acuerdos_inter/basilena_A.htm for more information on these studies.

[33] Please refer to http://www.conama.cl/gestion_ambiental/acuerdos_inter/basilena_A.htm for more information on Chilean implementation of the Basel Convention.

1989, Decree Law 427 was issued. It regulates fish farms on rivers, lakes, and the Chilean coastal waters by establishing the maximum production per river and lake, minimum distances between fish farms (1.5 nautical miles), the minimum distances between fish farms and docks and between fish farms and beaches, and minimum distances between fish farms in coastal waters. The Decree also requires a minimum removal of total suspended solids of at least 85 percent, a minimum open vertical distance of five meters below the net, and other requirements. The General Fishery and Aquaculture Law, amended in 1991 and issued by the Ministry of the Economy, is designed to promote long-term sustainability in the fisheries sector. In accordance with the Law, decisions on vital issues, such as limiting catch and restricting access to fishing grounds to protect resources, are made upon consultation with the National Fisheries Service (SERNAP), which includes representatives from the government, industry, and professional organizations. Beneath the SERNAP, five regional councils were established in each of Chile's main fishing zones to provide input from the respective regions. The General Fishery and Aquaculture Law also establishes that fish farming is only allowed in particular areas and only if the Chilean government determines that there will be no other affected interest. Since appropriate areas for aquaculture have not been developed for three Regions of Chile, no aquaculture has been allowed in those Regions since 1991.

Under the 1994 Environmental Framework Law and its implementing regulations, all new fisheries projects must be submitted for environmental impact analysis regardless of size. A current proposal to amend the regulations would exempt some of the smallest fish farms from impact analysis, but this would not include small salmon farms. Regulations which became effective on September 4, 2001, set the maximum emission levels for pollutants such as total suspended solids, phosphorous, nitrogen, heavy metals, and pesticides for fish farms and fish processing plants.

Chile regulates the use of chemical products in fish farming. Two specific regulation issued by the Undersecretariat of Fisheries and approved by SERNAP set forth minimum environmental standards for fish farming in suspended water systems, including maintenance of aerobic conditions in the surface of sediments below the cages. There is also a regulation, supported by fines for noncompliance, prohibiting the release of fish from fish farms.

CONAMA and SERNAP are the coordinating agencies for implementation and enforcement of these legal requirements. Local governments, through the use of regional committees, are empowered to engage in a form of zoning by proposing which geographical areas should be available for fish farming.

Forest Resources

Chile's Forest Law of 1931 establishes regulations governing the protection of forests on the banks of springs and on grounds with slopes of 45 percent or greater. Furthermore, this law empowers the President of the Republic to create national parks and forest reserves. Among the laws enacted after 1931, the Ministry of Land and Settlement issued Executive Order 366 in 1944 prohibiting the exploitation of certain species, such as *Peumus boldus* and *Quillaja saponaria*, and establishing

permit application requirements for exemptions to those regulations. Chile issued Decree Law 15 in 1968 to control the illegal exploitation of timber in public forests, forest reserves, and national parks.

In addition to the provisions already mentioned, Decree Law 701, regulates forestry and encourages afforestation in soil particularly suited to forestry, in degraded soils, and by small land owners, under certain conditions. One purpose of this law is to promote afforestation, which is the conversion of cleared land to forests, in order to prevent soil degradation. Decree Law 701 contains a provision (Article 42) which authorizes approval by CONAF of management plans "contemplating reforestation with species different from those felled only when this does not affect endangered, vulnerable, rare, or insufficiently known species." The management plan, which is required for the use of all public and private forests in Chile, and other requirements of Decree Law 701 operate independently of the environmental impact assessment requirements of the 1994 Framework Law. However, a small scale forestry project that is not approved under the Framework Law would not be eligible for government incentives, since the project would not be carried out.

Article 41 of the 1994 Environmental Framework Law established that use and exploitation of renewable natural resources shall be carried out ensuring their capacity for regeneration and related biodiversity. Article 42 of the Framework Law established that the public legal body responsible for regulating the use or exploitation of a natural resource in a specific area shall require the submission of management plans for that natural resource in order to ensure its conservation. Both articles include environmental considerations such as the protection of endangered, vulnerable, rare, or insufficiently known species. The provisions of Article 42 do not apply to projects or activities for which an Environmental Impact Statement or Study has been approved.

Chile has also assigned Natural Monument status to two tree species, *Araucaria imbricata in 1990* and *Fitzroya cupressoides* in 1997, to protect them from harvest.

Chile is currently deliberating over a bill, referred to as the Native Forest Law Project by CONAF, with the goal of finding an equilibrium among the economical, social, and environmental interests associated with forest resources. Due to the controversy that arose over the contents of the bill, the Chilean Congress has been unable to enact the legislation. At present, a consensus protocol signed by environment-related Non-Governmental Organizations, the Chilean Wood-Working Industry, and government agencies is available. Another bill is being prepared and will soon be submitted to Congress. CONAF also works in close cooperation with CONAMA and plays a large role in environmental impact statements concerning forestry projects[34].

Endangered Species

Chile first enacted legislation on endangered species by approving the text of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) in Decree Law 873 in 1975. There is no specific CITES-implementing legislation in effect in Chile, but standards to

[34] Please refer to http://www.conaf.cl for more information on Chilean forestry management.

establish the regulations are being drafted, and Chile has in place Red Data Books for Woody Plant Species, Wildlife, and Priority Sites for Conservation on a nation-wide scale. There are several laws and decrees pertinent to CITES and international wildlife trade, including the Hunting Law (1929, amended in 1996) which authorized Chilean authorities to declare closed seasons and other protective measures for native terrestrial and aquatic fauna, including prohibiting hunting of endangered, vulnerable, rare, and insufficiently known animal species or species classified as beneficial for agriculture and forestry.

Decree Law 2.319 (1978), which established a list of protected species for which hunting, commercialization, possession, importation, and exportation are prohibited, either permanently or during closed seasons; and, Decree Law 133 (1993) which modified the list of protected species and prohibits the hunting, sale, purchase, possession, or transport of any vertebrate for a 20-year period. Exempted from the provisions of the DL 133 are certain game and pest species, specimens destined for scientific or reproductive use, and specimens derived from licensed captive breeding facilities. This legislation does not establish regulations for the export of native CITES-listed species and does not apply to flora or to most aquatic fauna. DL 133 also established some specific measures for compliance with CITES requirements. In addition, Chilean law provides penalties for illegal possession and/or transport of protected species and certain species during closed seasons.

Further conservation of aquatic species and hydrobiological resources is governed by the 1991 General Fishery and Aquaculture Law. This law, among other components, sets annual species specific catch quotas and restrictions on exploiting recovering fisheries. In addition, Article 37 of the Framework Law states that the regulations "shall establish the procedure for classifying species of wild flora and fauna, based on technical and scientific data," and Article 38 states that the pertinent State authorities "shall prepare and maintain an updated inventory of wild species of flora and fauna, and shall enforce compliance with standards restricting the cutting, capture, hunting, trade and transport thereof, in order to adopt actions and measures to maintain biological diversity and conserve such species." These inventories are said to give preference to species classified under the conservation categories of: extinguished, endangered, vulnerable, rare, and insufficiently known. Application of this portion of the Environmental Framework Law is still in its development stage. No integrated body of laws exists for vegetative species in Chile, although some endangered species are covered by specific protection decrees, such as those mentioned in the above Forest Resources section.

Environmental Impact Assessment

Under the Environmental Framework Law, a wide segment of new or modified projects proposed by private industry, as well as those proposed by the public sector, are either subject to a full-scale environmental impact study, or an environmental impact statement affirming compliance with all applicable environmental laws, regulations, and standards currently in effect. Depending on the magnitude of the project subject to the Environmental Impact Assessment System, or on the significance of its potential effects on the environment, either the complete environmental impact study or the environmental impact statement is required. Both the environmental impact study and

statement require that the project comply with all applicable environmental regulations throughout all project phases – construction, operation, and termination. CONAMA and the COREMAs are responsible for conducting the impact assessment process. Regulations in the Framework Law provide for the mandatory inclusion of various projects, such as: high voltage power transmission lines and their substations; ports, navigation corridors, shipyards, and maritime terminals; oil and gas pipelines and other comparable facilities; forestry development projects on fragile soils or in native forest, cellulose, pulp and paper mills, chipping plants, lumber dressing facilities, and sawmills of industrial dimensions; and many other types of projects meeting certain minimum specifications.

Generally speaking, the categories of projects subject to environmental assessment in Chile are very broad, in that assessment is not limited to projects with government sponsorship or subject to some form of government approval. However, assessment of the cumulative impacts of projects is not required for many types of activities, such as: agroindustries, slaughterhouses, facilities and stables for animal husbandry and cattle milking and fattening that keep fewer than 300 animal units confined in feeding yards; housing development projects with fewer than 80 units in a rural area or fewer than 160 units within urban perimeters; forestry development projects that take place on less than 20 hectares of land, such as the harvesting of trees on small plots of land for conversion into wood chips for export; and many others. The Environmental Framework Law further provides that any project or activity not required to be included in the Environmental Impact Assessment System may subject itself to the system on a voluntary basis.

The Environmental Framework Law also creates a system, known as the "one window" process, which is coordinated by CONAMA or COREMA that integrates all of the environmental requirements applicable to a project into a single resolution that certifies that the project or activity under evaluation either complies, or does not comply, with all of the applicable environmental requirements. In addition, the resolution indicates the conditions under which specific permits will be granted during the implementation of the project, including potential research and restoration tasks. If the evaluation is approved, and the project is found to be in compliance with all applicable environmental regulations, no other organization of the State can impose different environmental requirements on the project. On the other hand, if the decision is such that the project is not found to be in compliance with all applicable environmental regulations, other organizations of the State are obligated to deny the project permits. This authority is given based on the initial acceptance by the State of the corresponding documents included in the Environmental Impact Assessment.

The Chilean government is engaged in an effort to further define the types of projects that are subject to the environmental impact assessment requirements of the Framework Law. To this end, a text to amend the Environmental Impact Assessment Regulations is under discussion. The amendments may define, among other things, the magnitude of projects subject to assessment, and may simplify certain formalities in the system so that it is arguably more effective and efficient. Although this effort is not aimed specifically at narrowing the scope of the current regulations, one possible result of the amendments is that certain kinds of projects may no longer be subject to the assessment process. It is important, however, to view this potential narrowing of the scope with the observation that the

Chilean system is already one of the most comprehensive environmental assessment systems in the world.

Enforcement

CONAMA and the COREMAs have no legal authority to deal directly with violators of environmental law in the sense that they cannot initiate civil suits for cases of environmental damage, although they may impose administrative sanctions to violators. Operative Enforcement Committees were created in the 13 regions of the country in 1999, following the approval by the Executive Council of CONAMA, to coordinate enforcement tasks at the regional level. Actual enforcement, including monitoring and reporting, is conducted by a number of Ministries charged with ensuring compliance with various sectoral laws that contain scattered environmental provisions.

To ensure compliance with environmental laws and regulations, inspectors are given the authority to request environmental audits and proceed with other measures to investigate violations. Many of the Ministries, however, lack resources that would be helpful to maximize compliance with environmental legal provisions. The National Defense Council plays an important role in enforcing environmental legislation in Chile. It is empowered to initiate environmental lawsuits on behalf of the government, the purpose of which is to seek a material remedy in the form of restoration or to demand monetary compensation for damage to the environment. The National Defense Council may act on its own initiative or on the basis of a request from another government entity or from members of the public. The National Defense council is also empowered to exercise civil action demanding compensatory damages for harm to the environment. Through this delegation, two of the main goals of Chile's environmental management are achieved. First, the entity responsible for causing the damage or pollution is required to restore the damage to the environment. Second, compensatory costs can be so high that they serve as an effective deterrent, encouraging damage-causing entities to adopt preventative measures when interacting with nature.

There are no criminal law penalties established by the 1994 Environmental Framework Law because it does not include environmental crimes. However, there are specific environmental laws that provide criminal law penalties for crimes that have specific environmental consequences, such as the destruction or illegal cutting of forest in the Forest Law, the illegal capture of fauna species and illegal trade in protected fauna species in the Hunting Law, the introduction of pollutants into the water in the Fishing Law, the damaging of national monuments in the National Monuments Law, and the attack, damage, or sabotage of nuclear facilities in the Nuclear Security Law. Failure to comply with environmental laws and regulations can lead to sanctions, including fines and the suspension of business operations, which can be imposed through civil courts and administrative procedures. Civil liability for environmental infractions is established under the 1994 Framework Law, which allows for infringements to be heard before local courts or administrative settlement bodies.

Judicial Access

There is a cause of action for damages to redress injury to persons or property under the Chilean Civil Code that extends to damage from environmental contamination. The Environmental Framework Law expands access to judicial remedies for environmental harm by establishing a new cause of action for environmental restoration for individuals who have suffered harm as a result of a violation of environmental laws, regulations, or standards. Under Chilean legislation, organized civil society is not entitled to initiate lawsuits for environmental restoration. A claim for environmental restoration may be brought by the municipality in which a person resides who has been harmed by the environmental damage that is the subject of the suit, by the person who has suffered the harm on his or her own behalf, or by the National Defense Council of Chile (see Article 54 of the 1994 Environmental Framework Law). In addition, the Chilean Constitution empowers any resident of Chile to redress violations of the constitutional right to a pollution-free environment through a "protection action" brought before the local courts. Perhaps the most famous of such suits was the successful protection action brought against the state-owned copper company, CODELCO, for disposal of copper tailings into Chanaral Bay which were destroying the local fishing industry, as well as having an impact on the environment.

Public Participation and Transparency

The Environmental Framework Law attempts to broaden public participation in environmental issues by requiring the government to consult with the public during the formulation of environmental regulations and standards. Under the law, CONAMA and the COREMAs are responsible for facilitating public participation in environmental protection, including establishing the infrastructure enabling members of the public to report violations of environmental laws. The new law also requires that summaries of environmental impact studies be published in the *Official Journal* by the Chilean government and in a regional newspaper where the project will occur. Administrative acts performed by state agencies as well as the pertinent supporting documents are required to be accessible to the public. This principle of disclosure now also applies to reports and data submitted by private companies that render services to the public. Before the government decides to accept or reject an environmental impact study, registered citizens groups are allowed to submit comments on the study to CONAMA, if it is reviewing the study, or to the COREMA responsible for reviewing the study. CONAMA has also encouraged the participation of environmental non-governmental organizations and there are ENGO representatives on CONAMA's advisory council.

ANNEX IV

INVENTORY OF ENVIRONMENTAL COOPERATION ACTIVITIES

A. U.S. Environmental Protection Agency

In the mid-1990's, EPA's cooperative relationship with its Chilean counterpart, the National Environment Commission (CONAMA), included environmental technical cooperation to help build Chile's environmental protection capacity on such issues as air quality, solid waste management, cleaner production, and laboratory development for environmental monitoring. At the peak of EPA's technical cooperation program with CONAMA, the Agency expended approximately $1 million over a two-year period. Presently EPA has approximately $100,000 for technical cooperation with Chile, including work on global climate change, the major component of the cooperation package.

Over the past two years, EPA has worked with Chile on capacity building to address global climate change, including "co-benefits" issues, or integrated environmental strategies, and there is ongoing work in this area. One current project, jointly sponsored by the U.S. Department of Commerce, focuses on assessing the local health and welfare benefits of greenhouse gas mitigation, as well as the global benefits of Chile's recent emission reduction efforts. EPA has also provided ad hoc technical assistance to Chile on mining (*e.g.*, mine closure), copper in drinking water (cooperatively with the Pan American Health Organization), and on air pollution control and abatement in the Santiago metropolitan area. Marine experts from EPA's Region 3 met with their Chilean counterparts and offered technical assistance on conservation issues.

B. U.S. Department of the Interior (DOI)

Mining

The U.S. and Chile are both members of the Mines Ministries of the Americas Conference (CAMMA), which was created in 1995 and is the only high-level minerals and metals forum in the Americas. Sustainable development in the mining industry is the focus, and twenty-two countries are members.

From September 15-17, 2000, DOI attended the first meeting of a project regarding the Closures of Abandoned Mines in the Americas, in Santiago. At the request of its Minister of Mining, Chile initiated a study for the development of a regulatory system that will regulate the closings of abandoned or exhausted mines in Chile. It is anticipated that these efforts will also be implemented in surrounding countries since representatives from Argentina and Bolivia were also present.

Parks

The U.S. National Park Service and Chile (through the National Forest Corporation of the Ministry of Agriculture, CONAF) entered into a bilateral agreement regarding technical assistance for parks in January, 2000. This agreement is valid for five years. Last September, National Park System personnel went to Chile to participate in a workshop on gateway communities adjacent to National Parks. CONAF came to the United States later in the year for a study tour of some parks in Utah, California, and West Virginia.

C. U.S. Department of Commerce (DOC)

1. National Oceanic and Atmospheric Administration (NOAA)

Memorandum of Understanding (MOU)

The National Marine Fisheries Service and the Servicio Nacional de Pesca (SERNAP), the Chilean Fisheries Service, signed an MOU to cooperate on fisheries in July of 1995. After the MOU was signed, two other Chilean fisheries agencies, the Subsecretariat of Fisheries (Sub-Pesca) and the Institute of Fisheries Promotion (IFOP) decided to participate in the Chilean delegation along with SERNAP, which continues to coordinate the meetings.

Research

Turtles: Cooperative work on sea turtles, with a priority on assessing incidental take and stock origin of leatherbacks in commercial and artisanal fisheries; quantitative analysis of bycatch data with the goal of submitting a paper for joint publication; guidance and educational materials on methods for handling, resuscitation, and live release of sea turtles caught in fisheries; provision of satellite transmitters and training in attachment methods to monitor post-release migrations of sea turtles encountered in Chilean waters.

Cetaceans: Cetacean research (particularly with regard to large cetaceans such as blue whales) and with whale watching regulations; cooperative work on small cetaceans such as dolphins.

Small Pelagics: Cooperation on anchovies, sardines and jack mackerel.

Large Marine Ecosystems (LME): Humboldt Current LME proposal.

Highly Migratory Species: Cooperative sampling of swordfish and other highly migratory species (HMS) for genetic testing.

Swordfish/Sharks: Cooperative swordfish research.

Atmosphere: In collaboration with the Direccion Meteorologica de Chile, NOAA takes samples on Easter Island and analyzes them as part of a global carbon cycle study.

Enforcement

Marine Mammal Protection: Joint discussions focusing on Chile's highly effective marine mammal and seabird protection efforts

Illegal, Unregulated, and Unreported Fishing: Stemming from a conference in Santiago in 2000, and other events to address monitoring, control, and surveillance, countries have agreed to create an international network. The network will allow real-time contact by enforcement professionals (for training exercises and enforcement efforts) without dependence on formal diplomatic channels. At present, the United States and Chile have been the primary players in this endeavor and the international network's website is in the construction phase.

Bilateral Training: Bilateral enforcement training workshop.

Multilateral Conference: Multilateral conference to address international monitoring, surveillance, and control.

Vessel Monitoring Systems (VMS): Exchange information and coordinate development with regard to VMS.

Management

Swordfish: Cooperative work on swordfish.

Fisheries Management: Expanding exchanges on HMS management programs.

Atlantic Operations: Exchange of data on the operations of Chilean pelagic longliners in the Atlantic Ocean.

Toothfish: The United States is working closely with Chile on implementing the CCAMLR Catch Documentation Scheme for Patagonian and Antarctic toothfish.

Multilateral Issues

FAO Initiatives: Support and implement the FAO International Plans of Action (IPOAs) on managing fishing fleet capacity, the conservation and management of sharks, and the reduction of seabird bycatch in longline fisheries. Support also for the new FAO initiative addressing illegal, unregulated, and uncontrolled (IUU) fishing.

Aquaculture

Technical Committee: Focus on mollusks, as well as protocols and regulations for identifying, monitoring, and dealing with aquatic animal health issues in the proposed Binational Technical

Aquaculture Committee. Exchange data regarding risk assessment work being conducted on net pen farms.

Harmful Algal Blooms: Workshop on harmful algal blooms.

Environment

Environment: Collaboration on analysis of environmental variability impacting fisheries.

Asia-Pacific Economic Cooperation (APEC): Vessel registration in the APEC region by building on an initial identification of fishing vessels by APEC economies.

Data

National Environmental Satellite, Data, and Information Services (NESDIS)

GEOS: NOAA/NESDIS' geostationary satellite (GEOS) has a Data Collection System (DCS) which is a space-based relay system used to collect, process, and distribute environmental measurements from fixed earth-based data collection platforms. These platforms are low cost and low maintenance, thus making them ideal to be placed in remote locations and left to operate with minimal human intervention. Applications supported by the DCS included flood monitoring, fire management, seismic monitoring, water resource management and oceanographic/meteorological monitoring.

Chile has a number of ground receiving stations and fully and freely receives data transmitted directly from NOAA/NESDIS' geostationary and polar-orbiting environmental satellites. The Chilean National Weather Service and the Chilean Hydrologic Service are approved GEOS DCS users that collect environmental data that are critical to their weather and flood forecasting programs. In addition, the Chilean Navy also collects environmental information for tsunami warnings to support activities of the U.S. Pacific Tsunami Warning Center and for research into environmental phenomena such as El Nino.

ARGOS Data Collection System: The Argos Data Collection System (DCS) is part of GEOS system and is used to collect, process, and distribute environmental data from mostly mobile earth-based data collection platforms. The inclusion of the Argos system aboard the moving polar-orbiting satellites allows for the benefits of worldwide coverage and the ability to determine location of the data collection platform by using Doppler shift calculations. This positioning capability provides critical location data for applications such as monitoring drifting ocean buoys, studying wildlife migration paths and allowing resource managers to study the exploitation of fish stocks through vessel monitoring systems.

The Chilean Antarctic Institute, as an approved Argos DCS user, collects weather data in the vicinity of the Antarctic peninsula in support of its global climate monitoring program. In addition, several Chilean fishing vessels are using the Argos system as part of a vessel monitoring system implemented

by the Chilean Ministry of Economy and Reconstruction in support of their fisheries resource management program.

Hydrographic Co-operation: NOAA/NESDIS' Marine Geology and Geophysics Division also serves as a World Data Center for Marine Geology and Geophysics. It provides the Chilean Hydrographic Office with both the NOAA National Ocean Service Hydrographic Data Base and the Trackline Geophysical Data of the World Data Base as the International Hydrographic Organization Data Center for Digital Bathymetry (IHO DCDB) and as a cooperative effort under the General Bathymetric Chart of the Oceans (GEBCO). In addition, NGDC has supported (with US$5,000) the establishment of an Intergovernmental Oceanographic Commission (IOC) Regional Mapping Project for the Southeast Pacific Ocean, the International Bathymetric Chart of the South East Pacific (IBCSEP) with an inaugural editorial board meeting scheduled for Valparaiso, Chile this coming fall.

MOUS and Formal Agreements

NOAA/NESDIS' MOU with Chile provides various Chilean agencies access to the GOES and POES satellites to transmit data.

Multilateral Activities

NESDIS cooperates with the Chilean Air Force under the satellite-assisted search and rescue program, COSPAS-SARSAT. NESDIS satellites can detect signals transmitted by beacons to locate aviators, mariners and land-based users in distress as part of its U.S. Search and Rescue Satellite Aided Tracking (SARSAT) Program. Presently, the SARSAT Program works cooperatively with over 30 countries, including the Chilean Air Force, as part of the International COSPAS-SARSAT Program.

NESDIS and Chile have interacted under the auspices of the International Council of Scientific Unions (ICSU), World Data Center (WDC) system. Pursuant to responsibilities under the WDC for Paleoclimatology, NGDC does some research on paleoclimate with several institutions, however, there are ongoing informal scientific collaborations with scientists in Chile. There are no MOUs, formal agreements or any joint publications to date.

2. Environmental Technologies

Chile Environmental Technologies Export Market Report

Provides a detailed overview of the Chilean environmental market, current statistical information, key environmental laws and regulations, key contacts in the country, etc. There are tentative plans to update this report in 2002, subject to availability of funds.

Market Development Cooperator Grant Program: Institute of the Americas

The Department of Commerce awarded the Institute of the Americas a special grant for 2001-2002 to identify areas in which U.S. industry could help address Latin America's water infrastructure goals. The grant has tentative plans to expand its focus into Chile in 2002, with the goal of improving collaboration between the public and private sectors in the water sector.

Solid, Hazardous, and Medical Waste Management Technology Transfer Technical Seminar

Scheduled for September, 2001. The objective is to introduce U.S. solid waste technologies and companies to the Chilean waste management marketplace and to bolster closer bilateral relations and partnerships in this sector.

Recent U.S. Trade Missions to Chile

Pennsylvania Governor Tom Ridge led the largest-ever Pennsylvania trade mission in early December, 2000 to Brazil, Argentina, and Chile. The environment was a key sector of the mission, where 6 of the 40 companies represented were environmental firms. Pennsylvania DEP Deputy Secretary Robert Barkanic assisted the envirotech firms by leading discussions on pollution prevention, air and water quality protection, and energy issues with government and business leaders in Argentina, Brazil and Chile. In Chile, Barkanic shared information on pollution prevention and energy efficiency with these government agencies and began work on a cooperation agreement with the Chilean Environment Association.

Previous Reverse Trade Missions to the United States

On April 8-9, 1998, Chile's then-Minister of Economy, Alvaro Garcia, and a large delegation of Chilean environmental project sponsors and officials visited Washington, D.C. On April 8, the delegation attended the "Environmental Opportunities in Chile Business Briefing" sponsored by the U.S. Trade and Development Agency (TDA). On April 9, Secretary William M. Daley hosted a working breakfast meeting at the U.S. Department of Commerce for the delegation, U.S. industry representatives, and trade associations. This meeting helped to bring potential U.S. suppliers together with Chilean decision-makers who represent more than $1 billion worth of projects in the water sector. This mission provided follow-up to Secretary Daley's trade mission to Chile in May 1997, in which the environmental sector was a priority focus, and closer environmental cooperation was a major theme.

"The Chile - U.S. Environmental Exchange Focusing on the Mining Industry" took place in Denver, CO, September 22-25, 1998. The event was organized by the USDOC, the Chilean Embassy, the Environmental Export Council, and the Colorado Environmental Business Alliance. Six Chilean mining officials were presented with a three-day series of informative seminars and technical presentations, site visits, and matchmaking meetings to highlight environmentally sound management practices, resource use efficiency, pollution prevention, and treatment processes related to the mining sector.

Trade Show Promotion

The U.S. Commercial Service in Santiago always helps to promote the biennial AGUAEXPO LATINOAMERICANA trade show in Santiago. This year the Santiago show takes place July 4-7, 2001 and will be attended by leading companies in the various water subsectors from all over the Americas with over 150 exhibitors and 12,000 attendees expected for the show.

3. Metals and Mining

Nonferrous Metals Consultative Forum on Sustainable Development

The International Copper Study Group (Chile and US are members-25 total) in cooperation with the International Lead and Zinc Study Group (US is a member-28 total) and the International Nickel Study Group (16 members) are jointly undertaking an effort to assess and enhance the contributions that nonferrous metals make to sustainable development. Three Working Groups have been established to address different SD issues. Metals Division staff co-chair the Working Group on Production. As mining is a key component of the Chilean economy, and Chile is the world's largest copper producer, staff have been working closely with the Chilean government (Chilean Copper Commission (Cochilco) and the Ministry of Mining) to accomplish the objectives of the Working Group. The current focus is on identifying the drivers of sustainable development in the metals production sector, and means of improving the industry's relationship with local communities.

APEC Group of Experts on Mineral and Energy Exploration and Development (GEMEED)

Per GEMEED's Terms of Reference, a major objective of the group is to "enhance the contribution of mineral and energy resources to sustainable development, through the promotion of environmentally and socially acceptable development practices (Best Available Practices). Chile has assumed a high profile in this group, and the Chilean Ministry of Mines has been serving as the Secretariat of the group since its inception in 1995. Metals Division staff have worked closely with the Chilean Ministry of Mines in furthering the objectives of GEMEED. In October 2000, with the sponsorship of the National Mining Association, the Department hosted a GEMEED meeting in Las Vegas to coincide with the Association's quadrennial MINExpo exhibition and conference. Currently, staff are working with the Chileans regarding U.S. plans to host a GEMEED meeting and workshop on indigenous peoples and local communities in Alaska in 2002.

Mines Ministries of the Americas (CAMMA)

Per the Declaration of Arequipa (2nd CAMMA meeting), the group has agreed, inter alia, to specifically work on “a common approach to policies on sustainable development.” In the Declaration of Buenos Aires (3rd CAMMA meeting), Ministers acknowledged that “the mining, minerals and metals industry contribute to sustainable development and play a fundamental role in the economic and social development of our countries.” The Sixth CAMMA Summit of Ministers will

take place in Santo Domingo, Dominican Republic in November 2001. The principal emphasis of the group continues to be sustainable development. Staff have been working with Chile to further the objectives of CAMMA, especially regarding attempts to coordinate the sustainable development work of CAMMA with that of the Nonferrous Metals Consultative Forum on Sustainable Development and GEMEED. Chile was instrumental in establishing CAMMA, hosting the initial meeting in 1996.

D. U.S. Department of Agriculture (USDA)

The International Cooperation and Development Division (ICD) of the Foreign Agriculture Service (FAS) has the following three programs in Chile as part of its Scientific Cooperation and Research Programs:

- Discovery and Evaluation of Entomopathogenic Nematodes in Chile. The program was established 1997 and is ongoing. The program is associated with Rutgers University.

- Harvesting, Transporting and Storing of Radiata Pine Longs in Chile to Minimize Movement of Scolytids, Hylastes, Ater and Hylurgus Ligniperda to Ports of Embarkation. The program was established in 1999 in cooperation with the University of Washington and is ongoing.

- Microbiologically Safe Foods By Hydrostatis Pressure Technology. The program was established in 2000 in cooperation with Oregon State University and is ongoing.

The Animal and Plant Health Inspection Service (APHIS) has three bilateral technical activities/agreements with their Chilean counterpart, the Agriculture and Livestock Service (SAG).

- Memorandum of Cooperation (MOC) between the APHIS of the USDA and the SAG of the Ministry of Agriculture of the Republic of Chile on Cooperation on Animal and Plant Health issues. The MOC was signed on August 7, 1998. The purpose of the agreement is to further technical cooperation on plant and animal health protection issues and aims to prevent the spread of plant and animal pests and diseases via bilateral trade. The agreement stresses the usefulness of timely exchange of technical and scientific information that promotes greater understanding of the status of pests and diseases in each country, especially those affecting commodities for trade. There is no term limit; however, either party can terminate this agreement by giving six months notice.

- Technical/Sanitary and Phytosanitary Issues Working Group, under the U.S.-Chile Consultative Committee on Agriculture (CCA). It was signed on April 23, 1998. The purpose of the agreement is to provide a forum to facilitate discussions on sanitary and phytosanitary (SPS) principles and measures relating to and affecting bilateral trade. The scope of this working group is limited to sharing and exchanging technical information and is not a venue for technical regulatory negotiations and decision-making. The group is intended to be a forum for sharing ideas regarding international standard-setting activities and other multilateral issues relating to SPS. There is no term limit, however either party can terminate

this agreement if granted approval to do so by the CCA, which is headed by the USDA Secretary and the Chilean Minister of Agriculture.

- Memorandum of Understanding between the Ministry of Economic Development, National Fisheries Services (SERNAPESCA) and the USDA/APHIS. It was signed on February 8, 2001. The purpose of this agreement is to establish the terms of the working relations for the recognition of aquatic animal health systems and the sharing of information on aquatic health between USDA-APHIS and SERNAPESCA. In short, the aim of this agreement is to provide the basis for the importing requirements for U.S. fish eggs to Chile. The term limit on this agreement is one year, or either party can terminate the agreement 90 days following the receipt of written notification to that effect.

E. U.S. Department of State

The U.S. Embassy in Chile provides direct assistance to the government of Chile in its environmental protection efforts. For example, the embassy sponsored and organized a visit to abandoned copper mining works sites in Reno, Nevada and Arizona for two CONAMA representatives. This technical assistance visit demonstrated site cleanup techniques for small and medium abandoned mining works.

1. Basic Agreement Relating To Scientific and Technological Cooperation Between the Government of the United States of America and the Government of the Republic of Chile

The U.S.-Chile S&T Agreement was signed on May 14, 1992, entered into force January 19, 1994, and was renewed in 1999 for a term of five years. The joint cooperative activities contemplated include: exchanges of scientific and technical information; exchanges of scientists, technicians, and experts; convening joint seminars and meetings; conducting joint research projects; and other forms of cooperation as mutually agreed. The Parties may also facilitate the development of direct contacts and cooperation between government agencies, universities, and other institutions under the "umbrella" of the S&T Agreement. The Agreement establishes a Joint Committee to coordinate and review cooperative activities, which meets every two years.

Three agreements between U.S. and Chilean governmental agencies have been signed and are detailed below:

Memorandum of Understanding Between the U.S. Geological Survey and Chile's Nuclear Energy Commission Concerning Scientific and Technical Cooperation in the Earth Sciences, signed in 1994.

Forms of cooperation under this MOU may consist of exchanges of technical information, visits, and cooperative research consistent with ongoing programs of the Parties. Scientific areas of cooperation may include the development of chemical rock standards, standardization of laboratory procedures to ensure international standards, participation in intra-laboratory comparisons, and maintenance of laboratory equipment.

Agreement for the Establishment of a Cooperative Biomedical Research Program Between the U.S. National Institutes of Health and Chile's National Commission for Scientific and Technological Research, signed April 30, 1997.

This Agreement provides a framework for the exchange of scientists and the support of cooperative biomedical and behavioral research and training. Cooperative activities may include: the exchange of scientific publications, information, and data pertinent to the development and implementation of joint research; promotion and conduct of collaborative research and exchange visits; advanced research training; exchange, loan, and provision of samples, materials, equipment, instruments, and components for testing, evaluation, and other purposes related to cooperative activities; and organization of joint conferences and seminars.

Agreement Between the U.S. NOAA and Chile's Ministry of Education for Cooperation in the Globe Program, signed April 16, 1998.

The GLOBE Program is an international environmental science and education program that brings students, teachers, and scientists together to study the global environment. GLOBE has created an international network of students at primary, middle and secondary school levels studying environmental issues, making environmental measurements, and sharing useful environmental data with one another and the international science community.

2. Economic Assistance: Enterprise for the Americas Initiative (EIA)

Seeking to implement the EIA and follow upon several debt reduction agreements, the U.S. and Chile established an Americas Fund and Administering Board to promote activities to preserve, protect, or manage Chile's natural and biological resources in an environmentally sound and sustainable manner, while encouraging the improvement of disadvantaged communities in Chile. The Agreement was signed and entered into force on June 30, 1993. It superceded a 1992 agreement between the Parties that had established an Enterprise for the Americas Environmental Fund and Environmental Board.

The 11-member Board is comprised of one U.S. and four Chilean government representatives and six representatives from Chilean environmental and local community development, NGO, scientific and academic bodies. The Board is responsible for the management and administration of the program and monitoring and oversight of the grant activities funded. The Board issues an annual report on the activities funded during the program year. In determining which projects shall receive grants from the Fund, the Board gives priority to projects that are managed by NGOs and that involve local communities in their planning and execution.

F. U.S. Agency for International Development (USAID)

The U.S. Agency for International Development (USAID) and its predecessor agencies provided over $2.5 billion to Chile for development projects between 1943 and 1996, when the USAID Mission in Chile closed. In the 1990s, USAID focused on programs in environment and democracy. In the area of environment, USAID assistance helped the Government of Chile to create its first

national environmental agency (CONAMA), draft and enact new environmental legislation and develop enforcement capacity. Efforts to reduce industrial pollution in Santiago resulted in substantially reduced heavy metals emissions, more efficient water use and immediate savings of over $3 million by industries involved in the program. A recent evaluation of the pollution prevention program confirmed the success and sustainability of the program.

Most recently, as part of the Latin America and Caribbean Bureau's Hemispheric Free Trade Expansion project, a forum was established to discuss and identify policy, institutional and governance reforms in Latin America that can ensure that export industries yield positive benefits net of environmental impacts. (see http://www.cipma.cl/hyperforum/) The first phase, which was completed in May 1999, was dedicated to the establishment of a new methodology (domestic resource cost analysis) in the context of trade-environment assessments and the application of this method in a preliminary way to three Chilean export sectors (forestry (pulp), fisheries (fishmeal), and mining (refined copper)). The second phase of the activity, which is being funded by IDRC, is focusing on measuring the environmental impacts of copper mining in Chile, Bolivia and Peru, and using that information to set priorities for data gathering, environmental monitoring, and reforms in legal, regulatory, enforcement and public policy. This collaborative study is led by the Centro de Investigación y Planificación del Medio Ambiente (CIPMA).

G. Cooperation with State Governments

CONAMA and the Washington State Department of Ecology plan to sign a "declaration of intentions" forming an ongoing expert exchange to develop policy and management strategies for decontamination of lakes in Washington State and Chile. The Chilean Embassy in Washington, DC sponsors this project, which, to date, has sent two U.S. experts to Chile and two Chilean experts to Washington state.